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Back Track

RECORDING BRITAIN'S RAILWAY HISTORY

STEAM ON SHED

In colour: Preserved lines in BR days

27 COLOUR PHOTOGRAPHS

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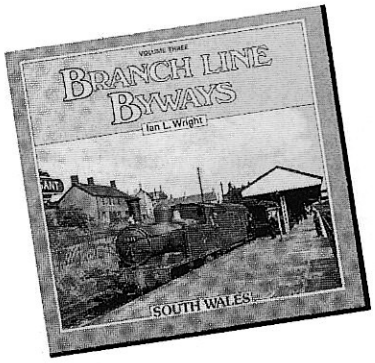

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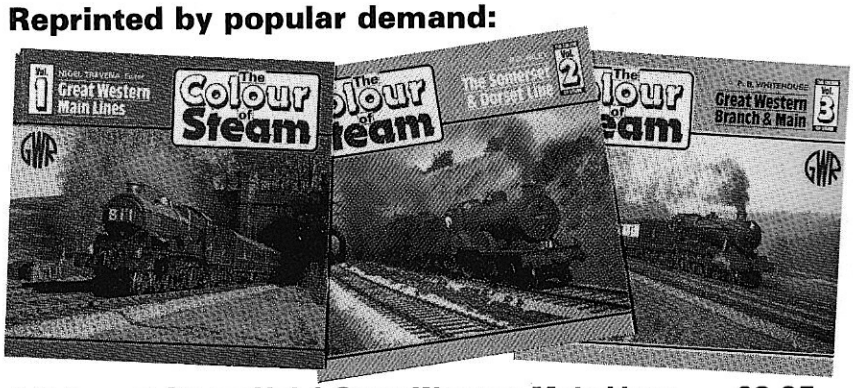

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BackTrack

RECORDING BRITAIN'S RAILWAY HISTORY

Vol.2 No.4 Winter 1988

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ON PRESERVATION AND PUBLISHING

Readers noting our front cover headline may be excused for thinking that we have reneged on our brief and included preserved railways in BACKTRACK. Perusal of this issue's centre pages should assuage that fear, for we portray four very familiar preservation sites as they were *before* a combination of chance and compulsive hard work transformed them into centres of 1980s steam operation.

The preserved lines seem to permeate every aspect of the study of our railways. By coincidence, this issue of BACKTRACK contains, apart from the centre spread, at least three other photos with some bearing on preservation and the subject rears its head again in Yesterday's Observer and the letters page. But does this matter?

We have, of course, nothing against preservation as such. On the contrary, our admiration for the preservationists and their achievements is immense. They give great pleasure and, most important, introduce new converts to our hobby every day. But are not their activities covered too well?

It was David Wilcock's brainchild, *Steam Railway*, launched in 1979, which initiated the preoccupation with the post-BR steam scene. It had been covered before of course, but often not as well. The instant success of *Steam Railway* pushed preservation to the forefront of railway interest and probably persuaded rival publishers that their readers' prime interest lay in the subject, rather than in history or the modern BR scene. But, in my view, *Steam Railway*'s success was as much due to the skill with which the early issues were put together as to their subject matter. The magazine could have been about *any* aspect of railway study — it's the way it's done that counts (as the parallel success of EMAP stablemate *Rail Enthusiast* was subsequently to prove). Nevertheless, from 1979, preservation became the 'flavour of the month' and has remained so ever since.

But the launch of *Steam Railway* had another effect, too. It initiated the fragmentation of the railway magazine market — the move from the 'cover-all' titles to those dealing solely (or predominantly) with one of the three main spheres of interest — preservation, the contemporary BR scene, and history. Thus, *Steam Railway*'s arrival opened the door to *Rail Enthusiast*, Paul Karau and Gerry Beale's *British Railway Journal* and, in 1986, to BACKTRACK.

Steam Railway has just celebrated its 100th issue. David Wilcock conceived it and he has edited most issues. Our congratulations to him.

SUBSCRIPTIONS

The completion of Vol.2 of BACKTRACK presents an opportune moment to remind readers of our subscription service. Annual rate, for four issues, is £8.50, the price including a stout, card-backed envelope inscribed 'Do not bend' and second class postage. For an extra £1.00 per annum you can order our special four-layer packing; this is proving outstandingly good at protecting the magazine from the enthusiastic attention of the Post Office and ensures you receive a mint copy, unmarked and entirely undamaged in transit.

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Nigel Trevena

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5th January 1989

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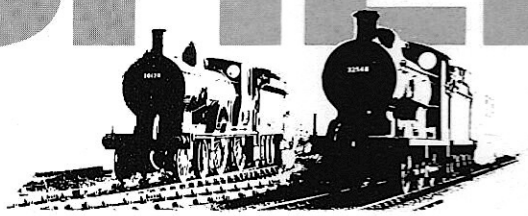
TOP: This view of Eastleigh shed dating from June 1955 is as fascinating as it is untypical. The rows of idle, cold engines are casualties of the ASLEF strike. Photo: S. C. Townroe

ABOVE: St Margarets shed staff dispose of mountains of hot ash on 18th September 1960. On the ash pits is Class A2 Pacific 60530 *Sayajirao*, **then a Haymarket engine. In October the following year it re-allocated to St Margarets, staying some 20 months. It was the penultimate A2 to be withdrawn, in November 1966.** Photo: J. D. Gomersall

ON SHED



So much of the lore of the steam railway centred on the running shed, where its character was at its most primitive. In this two-part article, **S. C. TOWNROE** *(district motive power superintendent based at Eastleigh) and* **CHARLES MEACHER** *(running shed foreman at St Margarets), remember the sheds they knew so well*

Eastleigh

Founding

Steam locomotive depots in cities gave rise to all kinds of problems. They became hemmed in by houses, with residents complaining about whistling, blowing-off and bumps in the night caused by engines moving on and off the turntable. The city council protested about excessive smoke, and oil in the drains. The London & South Western Railway sensibly moved its depot at Southampton to what was then, in 1902, a rural site at Eastleigh, surrounded by open fields and a river holding salmon and trout.

Despite ample space, the designers of the new depot built an enginemen's dormitory between two ingoing roads leading to the coal stage, thus ensuring anything but a decent sleep by night or day. An open-ended 16-road shed was so placed as to catch the cold winds. Unlike the substantial brick built coal stages adopted on the Great Western, that at Eastleigh was made of match-boarding. In Southern Railway days it was intended to replace it by a mechanical plant but those already installed elsewhere had given so much trouble by breaking up the coal that nothing was done. Indeed, apart from the addition of a water softener, and of a few wash basins, with cold water, the depot remained the product of Victorian thinking.

There followed, in 1911, the completion of Eastleigh Works alongside the depot. Both belonged to the Chief Mechanical Engineer's Dept at that time; as a consequence it was decided to economise in the provision of machine tools and a hoist or wheel-drop at the depot, and to make the works responsible for what would normally be done at a large loco depot. All very fine from an accountancy point of view, but it paved the way for arguments between the depot wanting an engine urgently for train-working and the works declining to interrupt production work. The situation was not improved when BREL was separated. Eventually the two sides reached a *modus vivendi* whereby the works helped the Running Dept in return for silence on the latter's part about engines leaving the works with parts missing or after the official date!

The depot principally served Southampton Docks, in its heyday between the wars. The large ocean liners would need eight special trains to and from London. Imports of fruit were sold at the quayside and only short notice could be given of the destinations of the loaded vans. The Southampton district produced 50% of the Southern's originating freight traffic. Eastleigh's engine allocation reflected this in the number of mixed traffic 4-6-0s of H15 and S15 classes, with King Arthurs, and latterly Lord Nelsons, for the boat trains. There was a good selection of vintage Adams and Drummond classes, A12s, 0395s, T1s, T9s, K10s, L11s, D15s and M7s, not forgetting some Adams 4-4-0s with 7′1″ and 6′7″ driving wheels. Eastleigh duties covered a network of secondary lines for which it employed older classes with light axle loads. At the end of WW2 these went for scrap, except for Adams 563, now preserved at the NRM.

Long-lived amongst the shunting engines were Adams 0-4-0s of class B4 which shunted Southampton Docks for many years until displaced by ex-US Army 0-6-0s. The little B4s could easily run 14-coach trains around the docks. Employed at the Town Quay was another oldie, one of two surviving Drummond C14 class 0-4-0s originally built for working rail-motors, and for a time Drummond's inspection saloon toured the docks with visitors.

Brake blocks, 1948

Spare buffers, 1948
All photos: S. C. Townroe

Wartime

In July 1940, in a Nazi air attack on Southampton, the offices and messrooms at the depot were destroyed. All lodging turns having by then been cancelled, the dormitory became offices and the shift foremen used an old van body with a tarpaulin canopy. This makeshift accommodation had to last the war; fortunately the depot was not bombed again, but it was reduced to near-chaos by the sheer numbers of engines involved in the tremendous build-up of military equipment stored all around Hampshire in readiness for D-Day. Rural lines connecting the Midlands with the Southampton area had their operating capacity uprated, at government expense, by extended loops and sidings with extra block sections. By an oversight nothing was done to the facilities at Eastleigh at the receiving end where the slowness of the coaling caused a queue of ingoing locos such that, to release them from the running lines they had to be parked in carriage sidings. The enginemen, usually on overtime and some far from their home depots, had no choice but to drop their fires and leave the engines where they were. Consequently the snowball effect was to keep trains waiting hours for motive power.

An appeal to the Ministry of Labour for more men produced some who had been building airfields and some Italian prisoners of war. There were some Irish and some Poles. They helped to clear the mountains of ashes but were strangers to work amongst moving locomotives and needed constant supervision. The Army arrived to assist in the course of

Coal conveyor used for high sided tenders, with WC Pacific *Wilton.*

preparing War Dept locomotives for shipment overseas. Not surprisingly, the Shed Superintendent suffered a nervous breakdown.

Peace and nationalisation

After the war it was my fate to take the post. I was firmly told that the late starts from the depot must be remedied or somebody else would have my job. Lateness and absences were endemic amongst men who had joined since 1939; about one-third of the 300 firemen and cleaners had short service and some had joined as an alternative to being directed into the mines or the Army. At the time, alarm clocks were unobtainable and the lack of one became a stock excuse. I was compelled to warn offenders that if they persisted in arriving for duty late, the sack would follow. They wrongly thought that we couldn't spare their services but the union (ASLEF) men agreed to back me up, since the older drivers had had enough of the slackers.

There were many wayward offenders. The Irishmen would be missing for Saints' days, others for celebrating something else. The brick-arch man chose his own hours, seven days a week on overtime; on being challenged about what he did he threatened to leave, in the belief that he was indispensable. He left, he wasn't.

A shanty town made out of old timber and condemned goods vans had sprung up to provide shelter for the extra wartime staff. An official canteen had been provided and was much needed but a crude dormitory and a hairdresser were *not* official and had to go, along with the Home Guard post and other hiding places. In a final effort to restore morale I had a campaign of redecoration. There was no likelihood of anything being done by the civil engineers; the company painted stations which were in the public eye, but little else, nor were we likely to have a royal visit. One of the advantages of the works so close was that we could indent for redundant stocks of paint and timber.

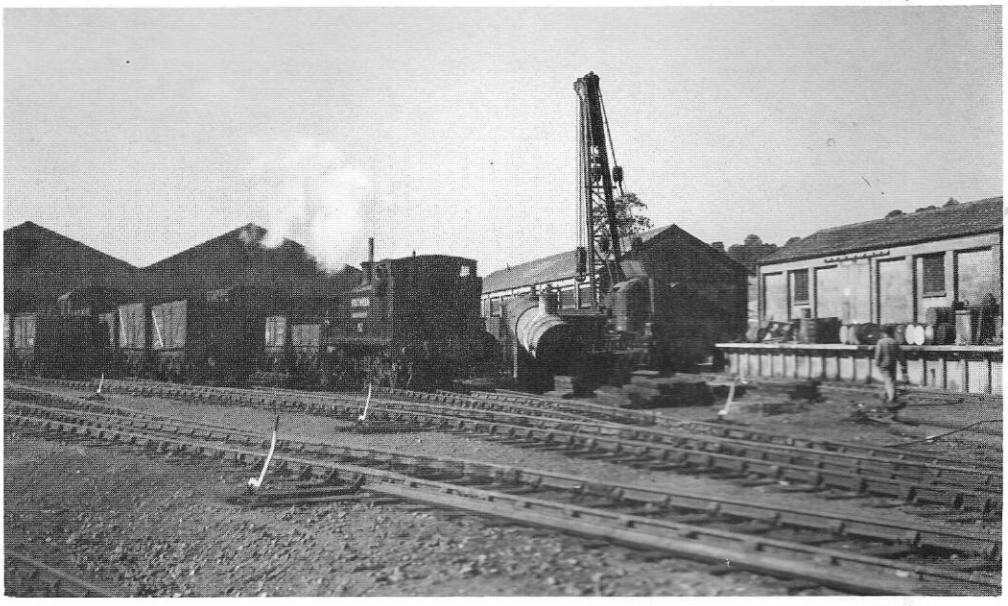
Spare parts passing between works and Southern running sheds were conveyed on the tenders of engines going in the right direction, including parts sent for reconditioning even to the size of connecting rods. Eastleigh Shed stores was responsible for handling the two-way traffic. There was another form of back door business: if a newly overhauled loco developed a serious fault after return to its home depot nothing was put in writing but arrangements would be made over the telephone to return the engine to works "to be weighed".

Maldistribution of axle weights was a common cause of slipping, especially with Bulleid Pacifics and weight adjustment on the works weightable did not count as under repair at works. There was no sense in publicising other people's faults; in the case of the works they could easily retaliate by reporting some engine sent in by a depot with excessive scale in the boiler or hammer marks on the motion.

In 1946 there came the scheme sponsored by the Government for oil firing on the railways. Eastleigh and Fratton depots were the first Southern depots to be provided with storage tanks and pumps, etc. Classes to be converted included West Country 4-6-2s, King Arthur 4-6-0s and Drummond T9s and L11s. Each class needed experiment to find the right position for the burner in the firebox. The scheme promised to relieve Eastleigh of some of its coaling as well as relieving some of the drudgery of firing. To everyone's disappointment the whole thing fell through because of oil supply problems.

In the immediate post-war years there was usually something going on of technical interest. Another experiment which was conducted at Eastleigh was the fitting of a mechanical stoker to Merchant Navy class 21C-5 *Canadian Pacific*. Mechanical stokers were used on railways abroad and there seemed no reason why they would not work with us, until we found out the snags: the feed screw which conveyed the coal from tender to firebox would jam with lumps of coal, and the dust discharged from

Coaling and watering an N15 Urie King Arthur.



Ex-PDSWJ 0-6-2T *Earl of Mount Edgecombe*, **in Southern livery, shunts Eastleigh shed yard in 1947.**

the chimney was excessive.

The year 1948 brought nationalisation. It was two years before the BR organisation really took hold; meanwhile there were the Inter-change Trials when Eastleigh became host to the 2-8-0 freight locos, despite never having had any 2-8-0s of our own. Then there was the beauty parade of Southern types painted in various colour tints and linings, as proposed by the new management. Blue was not chosen for the SR Pacifics so Mr Bulleid just had to see one of his Merchant Navy class painted in his choice, though it was not long before it was vetoed.

The last experiment with steam came in 1950 when Bulleid's Leader class 36001 arrived from Brighton Works where it had been built and given mechanical troubles on test. My information was that Bulleid thought Eastleigh could make a better job of it. At the same time the North Eastern dynomometer car arrived from Darlington, complete with testing crew. I got round the table with the staff reps to agree which link of enginemen should be rostered to it but met with a polite refusal. Their case was that the enginemen's council for the Southern had since Mr Maunsell's day always been consulted about the footplate layout of new locomotives, and Mr Bulleid had failed to do so. Word had got round, too, that the inside of 36001 was unbearably hot for human beings. Eventually we compromised; the staff would have nothing to do with the thing but if I found any volunteers, good luck to them. 36001 proved to have performance inferior to a normal loco of that size and to be mechanically defective.

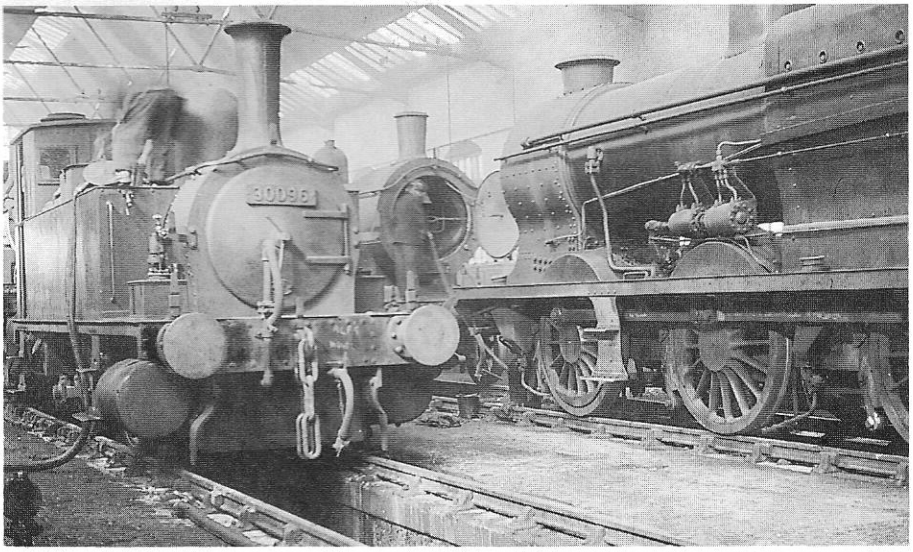
The new BR Superintendent of Motive Power — we had become a motive power depot overnight — visited Eastleigh and asked me to prepare a scheme of modernisation. That was done but I heard no more. As we moved into the 1950s recruitment became more and more serious. It was a time of full employment in South Hampshire, 5-day week jobs in clean conditions; staff shortage prevailed until the end of steam. Social conditions had changed and the Victorian locomotive depot of 1902 had lost its appeal. Eastleigh MPD didn't change with the times.

EASTLEIGH SHED

TOP: Driver Doug Andrews — 40 years service and never late on duty. One of the old brigade, with his fireman.

ABOVE: Another view of enforced inactivity at Eastleigh during the ASLEF strike in June 1955. The coaling stage and ash pits are on the right.

RIGHT: Inside the shed on boiler washout day, B4, T9 and Q class engines await attention.



St Margarets

When it was announced that St Margarets was to close the medical officer of health in Edinburgh exclaimed "That's the best news I've had for years." St Margarets motive power depot is not only part of railway history, its black, gaseous physical presence is gone without a trace. Lying astride the east coast main line 1 mile 288 yards east of Waverley station this antiquated inheritence from the North British Railway Company, with its concentration of ancient steam engines, was always under a dark cloud.

Now, there is only the double main line, controlled remotely from Waverley station by electric signals. On the north side — where once stood carriage and wagon shops, general and running offices, a roundhouse with 42ft turntable, enginemen's bothies, primitive lavatories and tool stores — there is now a wire fence at the edge of the Commonwealth Games Stadium.

From a peak allocation of 221 locomotives in 1950, second in number only to Stratford, there were but 40 remaining in 1965. Most of these went late in 1966 but closure came in April 1967 when the last engine, 65234, went for scrap. How appropriate that this Class J36 0-6-0, formerly NBR Class C, should be last to leave that company's very roots. It was the end of an era which began in 1846.

Construction

In the beginning the North British appeared less ambitious than it turned out to be. The ground chosen for the company's main engine construction works and carriage shed, later to become an engine shed, was a confined space flanked by the main Edinburgh to London road at an elevated level, and two minor roads serving Restalrig village, both giving access to the London road — then the domain of horse drawn vehicles.

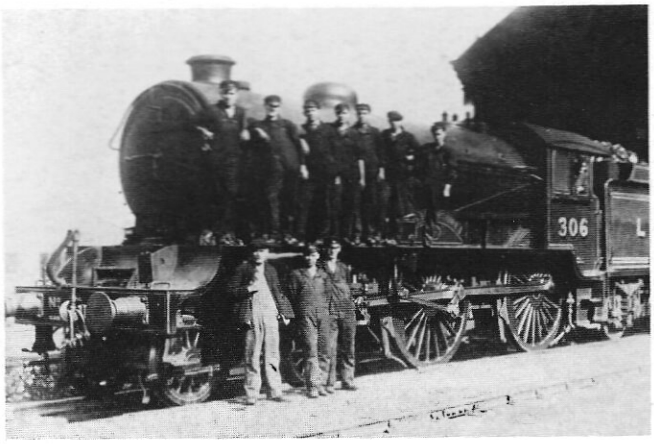
Near where the old roundhouse was constructed there was St Margarets Well which lent its name to the works in general. This well was inside the engine house which served the wagon shops and, though covered, was accessible to anyone who cared to have a look.

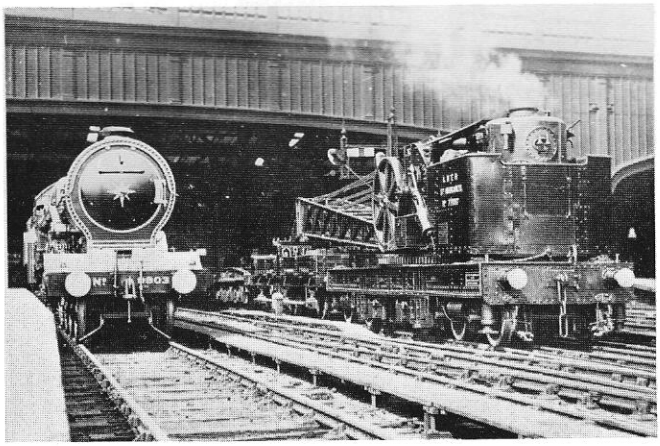
St Margarets works at its birth was practically in the country with a babbling brook at the front door. Not far distant was the Royal Park and Holyrood Palace nestling on the edge of old Edinburgh's unkempt tenements, the lot dominated by the long defunct volcanic mass known as Arthurs Seat. The high retaining wall fronting the elevated London Road had a hole directly opposite St Margarets clock on the north side of the main line. This offered a handy time check for railway workers and public alike. On another building to the right of the clock there was a huge fire bell under the roof which in the event of a fire had to be manually operated like church bells.

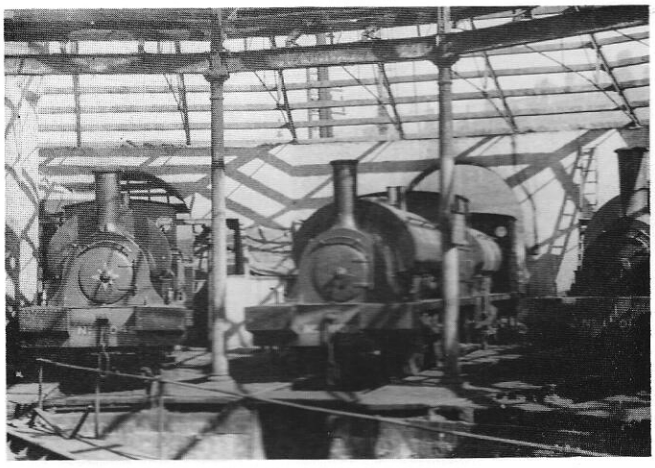
Waverley station came into being in 1846 as the NBR's North Bridge Terminus of its line to Berwick. With the opening of the Waverley Route in 1862, providing an alternative railway to the south, North Bridge became known as Waverley, the terminus of the new line, and was extended in the period 1869-73 and again between 1892 and 1900 after the opening of the Forth Bridge. There were originally two stations, Canal Street serving north and west and North Bridge station handling traffic to and from the south. The major reconstruction of Waverley station at the turn of the century coincided with the building of the North British Hotel

BELOW: The cleaning squad in 1936 pose with D49 4-4-0 *Roxburghshire.* Photo: A. A. McLean

BOTTOM: Inside the first St Margarets roundhouse after the fire of 1920 but before the shed structure was removed completely. The trio of class Y9 shunters were photographed in June 1937. Photo: H. C. Casserley







TOP: Line up of gaffers at St Margarets in 1936 on the occasion of the retirement of Loco Foreman John Culver (third from right).

ABOVE: The St Margarets breakdown train at No.8 platform, Waverley station, in LNER days. NBR Atlantic 9903 *Cock o' the North* **hauled Earl Haig's funeral train from Edinburgh to St Boswells in 1928.** Photos: A. A. McLean

The St Margarets trip pilot, N15 0-6-2T 69152 in early BR livery, shunts the carriage shops in June 1949. Note the fire bell on the gable of the sheet shop. Photo: H. C. Casserley

destined to become a prestigeous part of the Edinburgh landscape.

The completion of the Edinburgh to Berwick line in 1846 with branches to Haddington and later North Berwick in 1850 found the NBR struggling to establish itself as a company with an incompetent board feeling its way. At that time locos and rolling stock were supplied by private contractors whose products were a series of prototypes subject to defects and costly repairs, hardly the recipe for running a successful railway.

Early days

St Margarets first allocation of locomotives in 1846 came from Hawthorn of Newcastle and were stored pending the opening of the railway six months later. The first superintendent was Robert Hawthorn who had been in charge of Haymarket depot of the Edinburgh and Glasgow Railway.

It was not until 1856 that the NBR started to build locomotives at St Margarets, a very limited number of well-tank engines, about thirty. The original machine shops (which eventually became enginemen's bothies) were great whitewashed barns with lathe supports embedded in thick stone walls and a coal stove centrally placed for heating purposes. Repairs to locos and carriage and wagon construction were also carried out in those early years but in such a confined space working conditions were far from ideal. Nevertheless, a good number of vehicles were built and added to those from private contractors.

In those early years St Margarets supplied warming pans for the austere passenger carriages. These pans were heated in boiling water and with the aid of a long pole, put into compartments of selected trains. They did not stay warm for long and had to be reheated at intermediate stations. St Margarets also supplied pot lamps to illuminate the interior of passenger compartments. These heavy lamps were inserted from the carriage roof into a recess above each compartment. When in place the top of the hinged lamp with handle down stood proud of the carriage roof while a stout brass rim around the middle of the lamp rested on a watertight ledge within the recess. This allowed the glass globe of the lamp to hang wholly within the compartment. Inside the glass globe was a suspended burner stamped NBR. Men called 'potters' were engaged at main terminals to change and service these lamps which sometimes leaked oil on to passengers' knees while the feeble flame flickered with the vibration of a moving train.

Another interesting product of St Margarets was the 'Dandy No.1' a horse drawn coach which worked the Drumburgh-Port Carlisle branch in Cumberland. This was a replacement for the Carlisle made vehicle that inaugurated the service in 1856. The St Margarets coach arrived on the scene in 1859 after service on the North Leith line and North Berwick branch where it replaced steam haulage for a while. It resembled a four-wheeled oversize stagecoach with room inside for twelve first and second class passengers and accommodation outside for fifteen third class passengers. After withdrawal it was on display at Waverley station for many years.

On amalgamation of the NBR with the Edinburgh and Glasgow Railway in 1865 the Cowlairs Works in Glasgow became available. Spacious, with skilled workers, this had been the E&G's construction yard since 1841 and offered room for expansion, eventually becoming the NBR's engineering centre, serving the entire NBR system as well as LNER and BR in later years until closure in 1966.

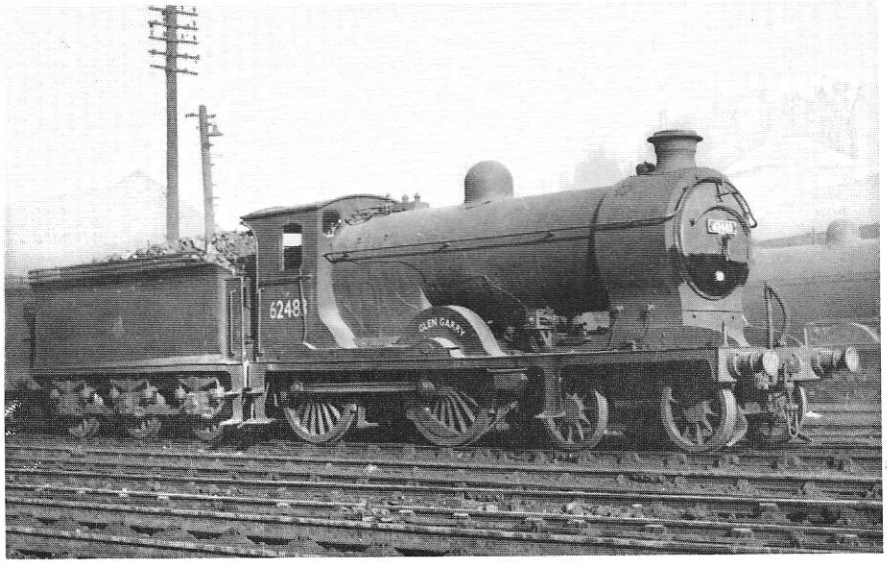
In 1869 St Margarets was relegated to the repair of wagons and passenger vehicles along with some boiler work but still there was congestion. To further relieve this crowding the carriage sheds on the north side, with six dead-end roads, became an engine shed while the carriages were transferred to sidings at Haymarket station. Meanwhile, the North Eastern Railway was pressing the NBR under an agreement of 1862 for running powers over the NBR main line between Berwick and Edinburgh. The NE wanted stabling facilities, coal and water, etc for about a dozen engines. After some reneging the NBR cleared and lowered high waste ground adjacent to the long shed on the south side and built a roundhouse with a 50ft turntable. Coaling facilities became available at six tips nearby but with the advent of larger tender engines the coal stage had to be extended and heightened with two more tips. There was also a high water tank holding 101,930 gallons.

NE engines were then part of the scene until about 1904 when Haymarket depot became available for the large East Coast express engines. Carlisle Canal engines, however, continued to be serviced at St Margarets. The arrival at St Margarets of the first Gresley A3 Pacific *Spion Kop* in 1938 was the prelude to further congestion. Until then the largest locos were the Class D49 Shires and the NB Atlantics, both of which were of reasonable dimensions. These, or the slightly smaller Scotts and

TOP: D34 4-4-0 *Glen Garry* **in an outside road at the shed in July 1954. Note the tenements in the background.** Photo: Photomatic

MIDDLE: St Margarets freight engines were stored in Craigentinny loop at weekends in order to reduce air pollution at the depot. This December 1962 view shows an 11-engine line up of 0-6-0s — nine J37s, one J36 and a J38. Photo: Rae Montgomery

BOTTOM: A general view of the shed in the 1960s. Photo: A. A. McLean



Glens suited the watering facilities, two engines fitting nicely between the water columns outside the shed and the crossing boards at its mouth. When the Pacific came on the scene, chimney leading into the shed, the tender was out of reach of the water column bag which meant the engines ahead had to foul the crossing board and create a hazard, or the 'big yin' went elsewhere for water.

Layout and operation

One had only to look at St Margarets to realise the place changed little since its inception. The old roundhouse on the north side was anything but round, the only resemblance to a circle being the turntable housing. The sixteen roads radiating from this centre varied in length according to the ground available in that area, the road in direct line with the access railway serving the wagon repair shops. These premises along with the carriage shops had a watchman during non-working hours. There was a stationary boiler for boiler washing out purposes which, when being serviced, was replaced by a locomotive. Above the arched entrance to this shed was a water tank capable of holding 5,400 gallons and a sand kiln was nearby. Engine fires were cleaned beside an ash loading bank outside which stood a wagon for ash disposal. On the south side there used to be a running shed with six dead-end roads plus three storage roads, two ashlyes and a 'gully' for ash wagons. There was also the all important coal stage, the main centre of activity 24 hours a day.

The ashlye area was developed during WW2 and dispensed with the need to clean fires outside the running shed where wooden telegraph poles were protected from hot ashes by brick surrounds at their base. Before then there was a roundhouse known as the 'NE Shed' on the altered site. Its 50ft turntable was replaced by a 70ft turntable situated in a corner hewn from solid rock beyond the coal stage. Above this sunken yard rose the tenements of Edinburgh's Meadowbank district where people lived behind closed windows because of the constant pollution from steam engines.

In 1921 the shed roof went on fire and was never replaced thus leaving men and engines open to the elements. The crumbling stone walls and archway must have looked something like the Gothic ruin that had stood nearby for 600 years before the NBR cleared the site for their works. As time went on the situation worsened until, in the post WW2 years, mechanical deterioration and general neglect created a situation that led to apathy and indifference amongst enginemen and fitters. The shed code 64A, introduced in 1949, came to be suspect by other enginemen — some of whom when changing over would also change engine kits knowing that St Margarets men could not be depended upon for any kind of efficiency. There was not much an individual could do to influence the situation although some enginemen did protest and made things even more awkward for all concerned. This was all so different from the 'engine pride' of

former times.

For 120 years St Margarets was a constant challenge to generations of enginemen and gaffers. When, at the end of a shift, the running foreman said "Ah well, that's the place cleaned up again," he was not fooling himself or anyone else. With luck he might have managed to provide power for all of his diagrams but as the coal store filled up and other incoming engines ran into outside roads the place was anything but "cleaned up". Amidst this organised confusion there were incidents that would further confound the situation and try the patience of the most placid supervisor.

St Margarets had long before celebrated its centenary year when, one day, a larger locomotive than usual was used to put up the coal bank, that is, place wagons ready for coalmen to unload and put into half ton tubs for tipping. Normally, the only thing that bothered these workers was smoke drifting inside the coal shed from the shunting engine. But on this particular occasion the engine itself drifted under the roof and the whole structure collapsed. At the inquiry the shunter maintained there was no rule to say the engine could not proceed into the shed. The very next day, however, a notice was displayed outside the coal shed indicating "no engines beyond this point".

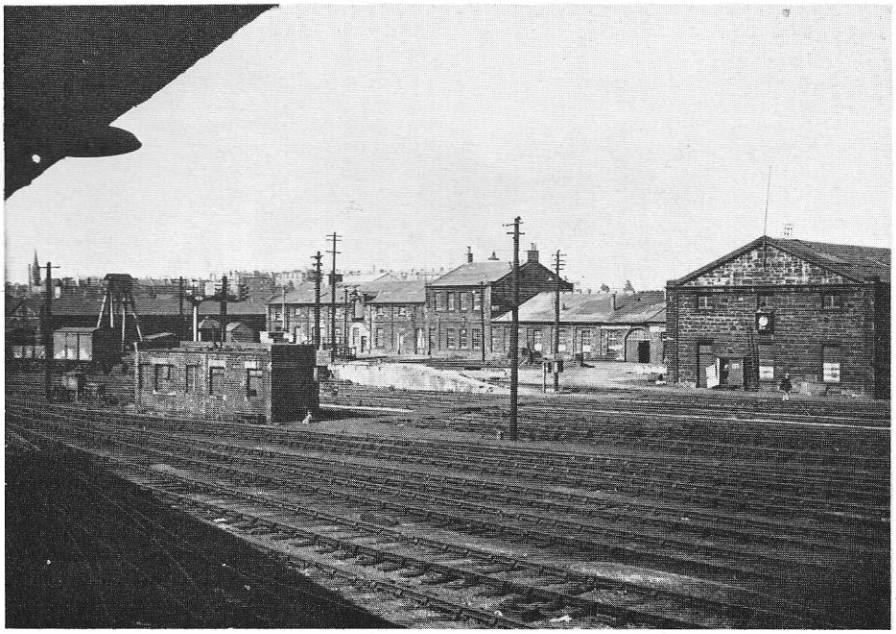
A more serious accident happened at St Margarets on Monday 10th May during the 1926 general strike. The 1.06 pm Berwick-Edinburgh train collided with some goods wagons in the tunnel, resulting in three passengers being killed and several injured.

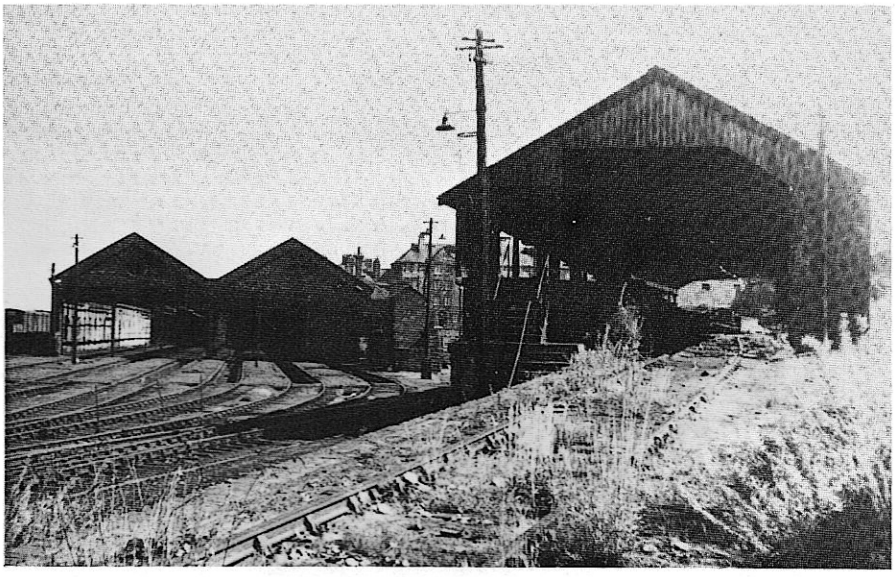
BR statistics in the immediate post WW2 years indicated there were 221 engines (excluding two stationary boilers), and 980 men to work them, rostered at St Margarets. Numerous stations, yards and private sidings in the Edinburgh area had engines supplied by St Margarets, as well as depots at Dunbar, Polton, Penicuick, Galashiels, Hardengreen, Longniddry, North Berwick, Seafield and South Leith. Men at these places never came near the parent depot and in some cases a cleaner lad worked alone on the night shift cleaning and caretaking.

There were 190 fitters and other grades in the fitting and machine shops, while the total staff numbered 1,500. Some idea of the work of maintenance may be gauged from the fact that approximately 1,000 engines a year passed through the '4 pm daily statement' as having had some form of repair done to them. On average 60 engines were disposed of each back shift, that is, coaled fire, ashpan and smokebox cleaned and engine placed on shed. To do this work there were four coalmen filling half-ton tubs from wagons and a tipper to coal the engines. Four sets of enginemen moved the engines and four firedroppers, an ashpan man and a smokebox cleaner were also involved on each shift.

All this added up to intense activity, lung and air pollution, a way of life remembered for comradeship but best forgotten in relation to modern railway practice. □

ST MARGARETS SHED





TOP: Full house of Pacifics — *A4 Lord Faringdon, A3 Prince Palatine, A2 Sayajirao, A1 Silurian.* Photo: N. E. Stead

BOTTOM: Two views taken after closure. The top photo shows the original St Margarets Works buildings on the north side of the main line; that with the clock on its gable end houses St Margarets Well. The bottom view shows the deserted shed and coal bank; note the increased headroom on the coal shed, caused by a loco knocking down the original roofing.
Photos: A. A. McLean

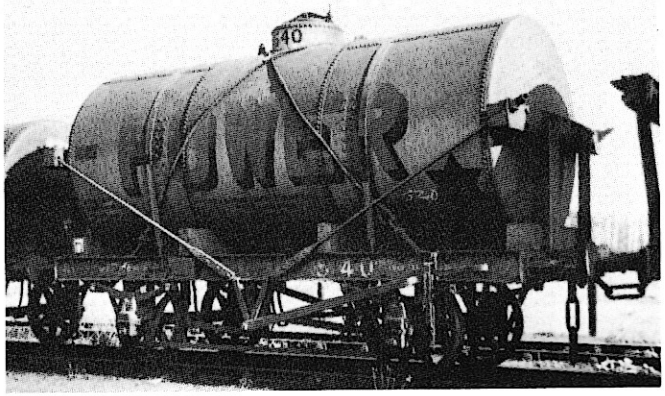
Perhaps the most characterful carriers of freight, described by **D. P. ROWLAND**

Some notes on TANK WAGONS

Any reader who may have seen reprints of pre-war Hornby catalogues, or who for that matter may have seen the originals, will remember how brightly-coloured tank wagons always featured prominently amongst the goodies on offer. This isn't really surprising since they were very much a part of the pre-war railway scene. Because of the nature of their loads not only have they never been common-user vehicles but they have almost all been privately owned. Furthermore, when there were numerous smaller oil companies the incentive to have one's own, distinctive, livery was strong and there were certainly many colourful examples. However, I suspect that some of the more exotic colour schemes were not quite so widespread as the catalogues would suggest, or were even fictitious.

For Christmas 1938, I was given a Hornby-Dublo electric train set; 0-6-2T 6917, a wagon, a van and a brake-van — all LMS. A March birthday produced a Royal Daylight tank wagon with its brilliant red body and the name writ large in gold letters edged in black. I still have that tank. Shortly afterwards the trusting innocence of youth was shattered when I saw the real 6917 in the cutting outside Liverpool Lime Street station — smaller, older, long-chimneyed and really not much like my model. After that I kept my eyes open for a real Royal Daylight but to this day I have never seen one. Whilst the episode may have shaken my faith in manufacturers it at least ensured that I became interested in tank wagons.

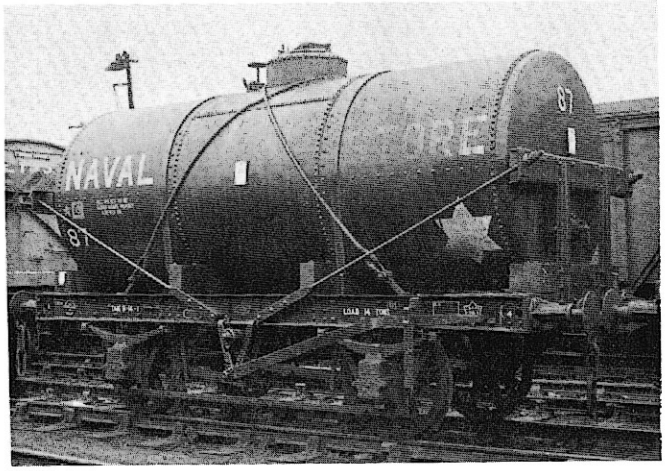
Came the war and the first thing I noticed was that all the brightly-coloured tanks had gone. In their place



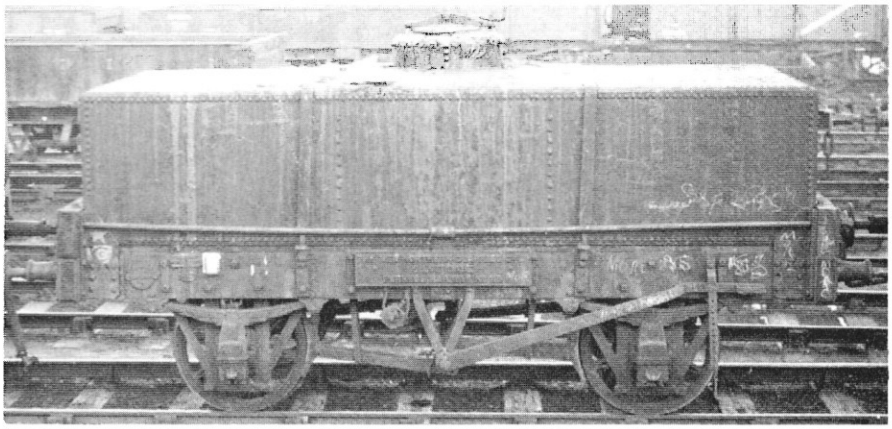
I am obliged to Mr J. A. G. N. Coltas for this photograph of Power Petroleum tank wagon No.540 in all its pre-war glory. Judging by the body colour it appears to be a 12 ton tank wagon for motor spirit. The tank body would be silver, the solebars red (RCH standard colours for petrol tank wagons) and from memory the company name was in bright green letters shaded black. Such wagons certainly stood out, which is why they were repainted dull grey at the start of the war. The tank barrel is rivetted and sits on wooden saddles and is secured to the solebars by straps and also by hawsers around the filler manhole cover. Photo: J. A. G. N. Coltas

For wagons carrying diesel oil the approved livery base colour was black, as seen on Esso tank wagon No.1006 photographed at Millom on 17th April 1961. The higher density of oil compared with petrol results in a smaller diameter tank on 1006 in contrast with that on 540 above, but hawsers are also used to secure the barrel. Photo: Author

This 14 ton fuel oil tanker operated by the Admiralty is actually a pre-group example having been registered by the L&NWR but it has steel solebars and oil axleboxes. The valve spindle to the left of the filler opened and closed the outlets. Photographed at Millerhill on 10th March 1962. Photo: Author



We now come to a later design where the securing hawsers have been abandoned and the retainers are braced together by longitudinal rods as well as being secured to the solebars by diagonal braces. This United Molasses tank wagon was built by Stablefords in 1927 and rated at 20 tons. Livery was a dull red, almost red oxide, with off-white lettering. Photographed at Millerhill on 26th July 1964. Photo: Author



Even as long ago as 1960 when this photograph was taken the rectangular bodied tar wagon was a fast-vanishing breed, hence this shot snatched from the window of a passing train. It shows New Northern Quarries No.115 on an up freight at Lancaster. The body, which is no wider than the solebars, is secured to them by straps and by end baulks bolted to the headstocks. On the original print it is just possible to see the bottom outlet to the left of the V-hanger. I have assumed it to be a tar tank wagon but spillage from the filler suggests the load could have been a light-coloured liquid. Photo: Author

were drab grey wagons with the word 'POOL' on the barrels in large white letters. This statement is made in good faith on the basis of schoolboy memories; I have yet to meet anyone who can confirm it or who can produce photographs to prove it so if any reader can do so I would be most grateful. Certainly the letters soon disappeared and the tanks became a uniform dull grey.

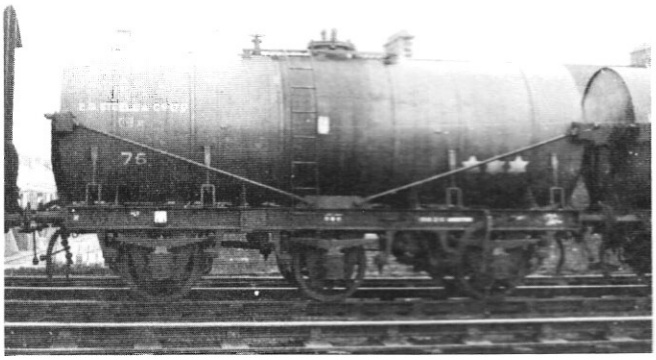
The immediate post-war years were pretty dull so far as wagon liveries were concerned. By then, what remained of the thousands upon thousands of privately owned coal wagons, having been in a government controlled pool since 1939, had lost their once distinctive liveries. Tank wagons were thus just about the only privately owned wagons on the whole British Railways system. It took quite some time before individual liveries began to re-appear, for what precise reason I have never been able to discover, but some of the more exotic examples were gone for good. To give one example, the pre-war National Benzole petrol tank was a gem but I have no record of the winged man appearing post-war.

For a while there was what might be called an Indian summer; there were still small petroleum depots up and down the country, a siding or two shunted several times per week, each with its complement of tank wagons. There were still some of the smaller oil companies around too and once again their wagons proclaimed ownership. And apart from the oil companies some of the smaller chemical companies still used rail freight as did bitumen producers and manufacturers of edible oils. Consequently, as long as there were general merchandise freight trains they were quite likely to convey one or two tank wagons. Before looking at the tanks themselves I should perhaps finish the story or, more correctly, bring it up to date.

Changing economic conditions have caused British Rail to get out of the general freight business. Depots up and down the land closed and the general merchandise train became a thing of the past. British Rail now carries more petroleum products than it ever did before Beeching but the traffic flows between selected points and moves in block trains which usually consist of bogie tank vehicles — generally looking scruffy — each weighing about 100 tons loaded. The same is also true of such traffics as carbon dioxide and ammonia although

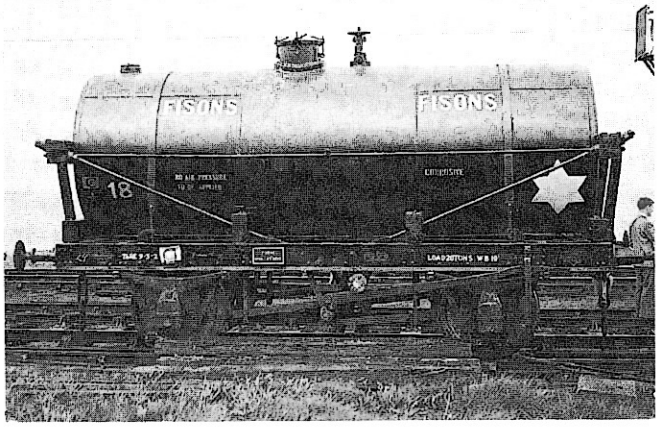
The sheer size of this bitumen tank, Shell-Mex and BP No.8091, makes it difficult to believe it is but a 14 ton vehicle. The tank is in fact lagged and in the shadow at the left-hand end can be seen part of the heating apparatus used to warm up the load prior to unloading. Note that on this example there are no end stanchions and the tank is secured to the underframe by anchor plates. It was built by Charles Roberts in 1942 and recorded at Granton on a beautiful, sunny, 28th May 1960. Photo: Author

On the same day this 22 ton Sodium Hypochlorite tank was photographed just along the road from the previous example. It had been built in 1951 by R. Y. Pickering of Wishaw and it is a pleasure to record that its livery of ICI blue with white lettering was immaculate. Photo: Author

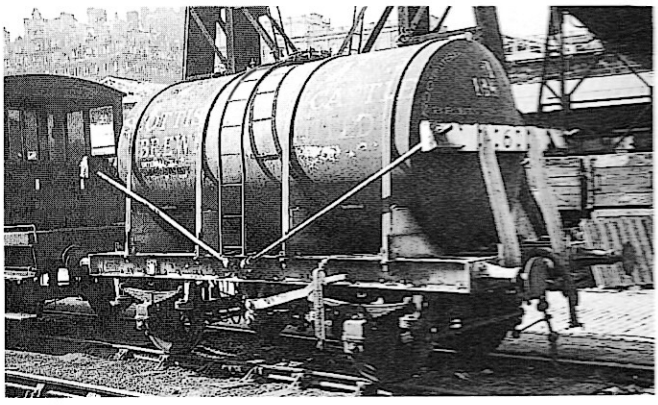


To show that not all tanks were four wheelers which carried petroleum products I would like to finish with a few oddities. First, a six-wheeler, E. G. Steele No.75, a 20 ton vehicle built by Charles Roberts and registered in 1949. What load it carried I was unable to discover. Photographed at Niddrie on 10th March 1962. Photo: Author

Fisons are well known for being in the chemicals and fertiliser business but again I cannot say what No.18 carried. It was registered by the LMS in 1941, builder unknown, and the low number would suggest they did not have an extensive fleet. It was photographed at Bo'ness on 7th May 1960 not far from where the Scottish Railway Preservation Society now have their headquarters. Photo: Author



My last offering is a much more recent shot — relatively speaking. It was taken at Edinburgh Waverley in May 1972 and shows a Scottish & Newcastle Breweries tank wagon. At least it *had* been in use for their traffic; by 1972 it was in British Railways departmental stock. Unusually, it was a railway-owned wagon having begun life as LMS No.707106 in 1939. Possibly only the underframes were LMS property with the tanks being owned by Wm McEwan & Co who used them to carry Edinburgh brewed beer to Glasgow for bottling. Photo: Author



from my observations it seems these tanks are kept slightly cleaner, but not much. Thus there was this little post-war time window when one could see traditional four wheeled tank wagons, generally in distinctive liveries, in depots and freight trains all over the system. The tragedy is that whilst it coincided with the ready availability of colour film most enthusiasts concentrated on other subjects and much went unrecorded. But that applies to wagons in general, not just tanks.

At the turn of the century the Railway Clearing House issued special standards for tank wagons which differed from those of mineral wagons, so a different series of drawings was issued to cover tanks. At first rectangular tanks were common (there were also some with a rectangular base but a rounded top) but the cylindrical barrel soon became normal for most traffics. Whereas with coal wagons the 8 ton type only slowly gave way to 10 and 12 ton designs with relatively few examples of higher capacity wagons, amongst tank wagons the 8 tonner was rapidly superseded by the 10 and 14 ton types and 20 ton examples were relatively common. Here it should be pointed out that it is not easy to assess the capacity of a tank wagon by observation. Since different liquids have different densities and varying allowances have to be made for expansion, barrel diameter alone is not a sufficient guide. To quote one example, a 14 ton tank used for coal tar commonly had a tank with an inside diameter of 5ft 10½ins whilst on a 10 ton tank wagon used to convey Class A motor spirit the tank diameter increased to no less than 6ft 7¼ins. These figures relate to the 1927 RCH standard design.

Whilst there were some tank wagons with wooden solebars running well after nationalisation, generally speaking steel solebars were much more common on tanks than they were on private owner coal wagons. Whilst I have no figures, from personal observation I would also say that tank wagon owners were less tolerant of grease axleboxes. But, as with mineral wagons, it was not until well into the British Railways era that continuous brakes made their appearance on tank wagons.

Above the solebars most of the design changes related to the way the tank body itself was secured to the underframe. Early cylindrical tanks rested on heavy wooden saddles. End movement was controlled by timber baulks across the tank ends, these baulks being secured to the headstocks by stanchions and to each other by rods running along the tank sides. There were also heavy hawsers going from the solebars, up around the filler and back down to the other solebar. Later designs dispensed with the hawsers and then the end stanchions and timbers were abolished in favour of anchor plates securing the sides of the tank to the solebars and controlling end movement as well.

For any reader wanting to know more about tank wagons it has to be said that the whole subject is a very neglected one. 'Petroleum Tank Wagons of Britain' by R. Tourret (Tourret Publishing, 1980) is a good reference work at £7.95 and Hudson's 'Private Owner Wagons' books Vols I to IV, previously OPC now published by Headstock, give some information but there is no standard work on tank wagons that I am aware of. Indeed, if it is any consolation, it was not until the advent of the TOPS wagon control system by British Railways, which involved the registration and numbering of every wagon, that BR themselves found out just how many tank wagons there were in total. □

The MELTHAM Branch

Of all the local branch railway lines built by the Lancashire & Yorkshire Railway, the 3½ mile Meltham branch was probably the most difficult to build; no mean achievement, considering that many of the company's lines were built through rugged countryside. It featured two major tunnels, numerous bridges, embankments, cuttings, and a retaining wall that was amongst the largest in the country. Add to this the shortest tunnel on the L&YR system, a station that only lasted a month, and a private halt, and you have a rather unique branch line.

ALAN EARNSHAW

Genesis

Construction of the Meltham branch was difficult from the outset, for the surveyor's report failed to discover beds of treacherous shale and sandstone along the course of the projected route. Many fresh-water springs issued from the hillsides and combined with the shale to present the engineers with a most unstable surface on which to work. Parliamentary sanction for the branch had been obtained on June 7th 1861, incorporated in the 'Lancashire & Yorkshire Railway Co. Dewsbury etc Branches Act', which also authorised the Thornhill branch between Thornhill (Dewsbury) and Heckmondwike. In common with many railway projects of the era, the L&YR did not commence work straight away, and it was not until 1864 that tenders were issued. A contract was let in February 1865, to Barnes, Beckett & Co, of Audenshaw, for £62,718 17s 7d, to include stations, buildings and other works. Iron bridges were to be supplied by Richard Armitage & Co, of Huddersfield, at a cost of £2,400.

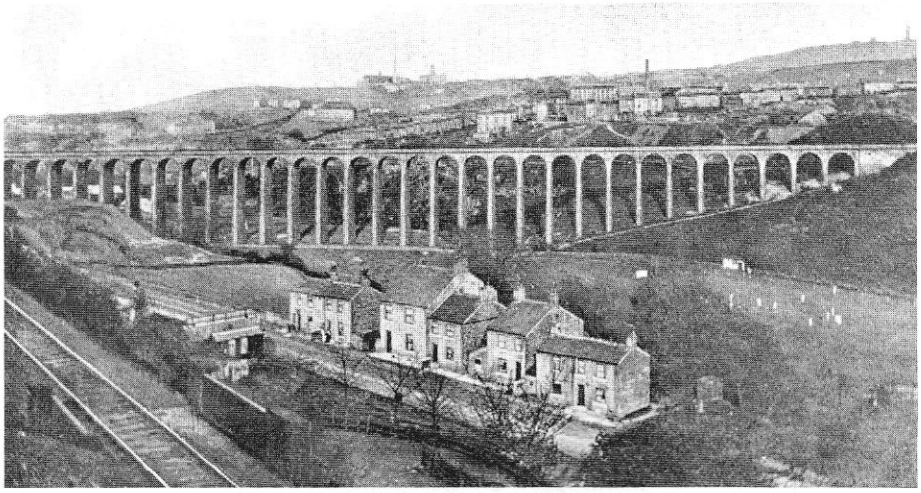
The first sod was cut on April 4th 1864. Strong opposition to the construction of the line was shown by Bentley Shaw of Woodfield House, alongside whose home the line would run. In 1861, he so incensed local supporters of the line that a public meeting was called at the Oddfellows Hall, Netherton; it was thereby resolved 'that no local resident would buy ale, beer, or porter, produced by Mr Shaw's Lockwood brewery, until such times as trains ran to Meltham.' There is no record to show how successful the boycott was, but Shaw continued his opposition to the construction, as we shall see.

Woodfield and Dungeon Wood were both problem areas where shale quickly perished on exposure to air, resulting in unstable earthworks and landslides. On August 19th 1865 a serious fall took place inside Netherton Tunnel, resulting in subsidence above. Geological problems continued to delay the work and in that November a major landslide occurred at Dungeon Wood. It became evident that the date fixed for completion (1.6.1866) would not be met, and the L&YR's projected opening date of March 1st 1866 was impossible. Accordingly, an extension was sought, and this was approved by the L&YR Act of May 18th 1866. Unfortunately, the problems continued and there were major landslips in January and September 1866. In the latter incident the whole turnpike below the railway at Dungeon Wood was dislodged, and the bar house and a row of cottages had to be demolished and re-built at the L&YR's expense. A further slip in February 1867 was so serious that it threatened to block the River Holme. Plans to open the line in May 1867 were again frustrated by the continual problems at Woodfield, and when the day of the proposed opening arrived, over 60 wagon loads of spoil per day were being removed to Denby Dale for infilling the new viaduct there.

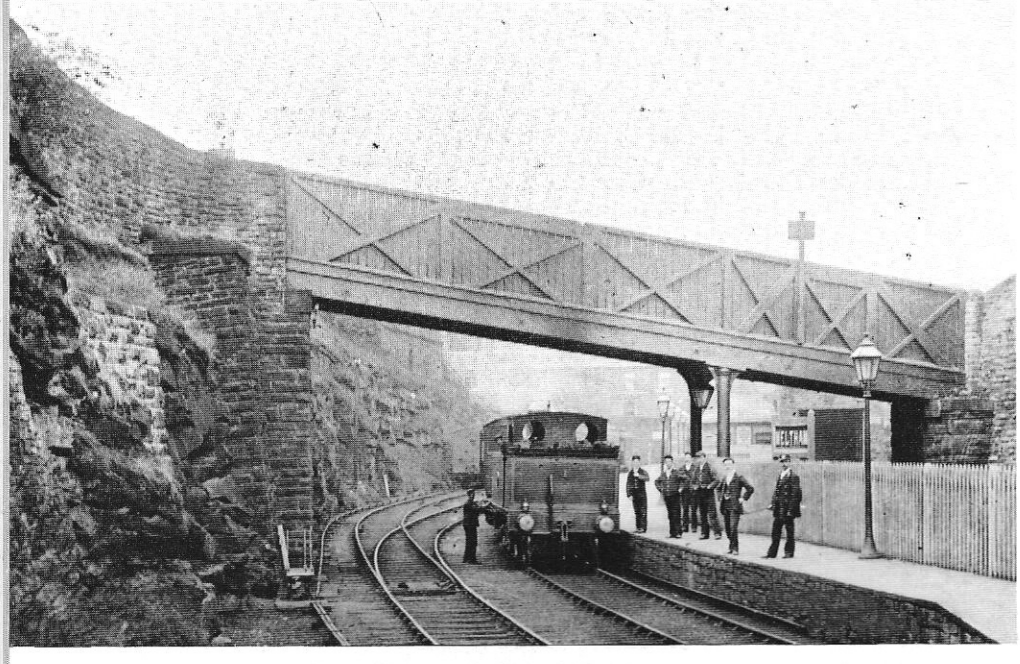
After yet another landslide at Dungeon Wood, near Woodfield, in March 1868, Bentley Shaw obtained an injunction against the L&YR to stop blasting which might damage his property, and for good measure he sent his family away to safety in Harrogate charging their expenses to the railway.

However, by now the line was nearing completion, and the first goods train ran to Meltham on August 8th 1868, at which time coal prices fell by 3/6d per ton. During this first period of operation one of the line's few accidents occurred, when a coal wagon being shunted on the coal chutes left the line and crashed into the goods yard below.

Passenger services were scheduled to start on September 1st, but unfortunately another landslip occurred at Woodfield on August 28-29th, and instead of opening fully on the appointed day, the line was closed. Another major fall occurred at Hall Heys Cutting, December 1868, and again at



Lockwood Viaduct c.1914, with the Meltham branch in the foreground. Beyond Lockwood station and Meltham Junction the main line continues to Penistone, crossing the magnificent 34 arch Lockwood Viaduct, standing 136ft high above the Holme Valley. Like the span over the River Colne, the viaduct over the River Holme was not beset with major problems but delays in the construction can be evidenced by the plaque above Woodhead Road which optimistically commemorates the opening date as 1848. To one side of the viaduct is a local cricket ground at Birks Bottom, and in years past a favourite pastime was throwing balls over the viaduct. It seems that the first man accredited with the feat, in 1874, was Charles Hirst, a Lancashire fast bowler. Jack Crosland attained the throw standing on a barrel. In September 1938 Jack Crum of Armitage Bridge managed the feat twice, on one occasion watched by a crowd of over 160. During World War II American servicemen failed in an attempt to hit a baseball over the viaduct, and the next recorded event came in 1962 when Rastrick cricketer Gordon Sample managed to clear the bridge four times.



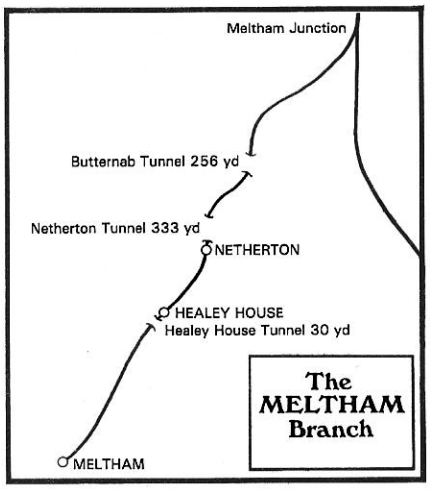
Meltham station c.1905. The terminal point for passenger traffic was much higher than that for goods trains, and the line ran in on a narrow shelf carved in the hillside. Two footbridges crossed the passenger line, one leading to the station, with a further structure leading down to the goods yard and the spinning mill. Seen below the station footbridge is an Aspinall 2-4-2 tank preparing to leave bunker first. The express headlamps indicate a working to either Bradford or Halifax, but it may be one of the rare long distance workings that ran from time to time. It is certainly unusual in that the train is made up of bogie stock, when the usual train of that period would have been of 6-wheeled bird-cage stock. Photo: B. C. Lane collection

Dungeon Wood in February 1869. To retain the unstable ground massive earthworks were constructed, those at Woodfield and Dungeon Wood having tremendous retaining walls; one of these was 102 yards long and 60 feet high with a base 14 feet thick and classed as the most substantial on the L&YR system, where substantial earthworks were not uncommon.

After inspections by Col Yolland in May and June 1869 (whereat Bentley Shaw again tried to prevent the line opening), Board of Trade sanction was given for the line to re-open. The first train left Huddersfield with eleven carriages on July 5th 1869. Shaw was offered a ticket, but it is not likely that he availed himself of it. At each station the train was met by detonators and flags flying. The eleven coach train was packed to capacity; free travel doubtless encouraged many of the trippers, amongst whom was a small boy, Francis W. Creaser, who was later to ride on the very last passenger train on the branch. As the train approached Meltham, the cuttings and embankments all the way from Meltham Mills were lined by cheering crowds.

Description of the line

The branch left Lockwood, passing on a narrow shelf below Beaumont Park, and above the River Holme, until Woodfield was reached. Here, a station was opened on June 1st 1874;



built of stone, it was fully illuminated by gas lighting — the first station so treated in Huddersfield. Prior to the opening, it was planned that the station was to have been called Dungeon Wood, but for some unknown reason the nameboards were removed and the station re-named Woodfield. Receipts were very low, hardly averaging a shilling (5 pence) per day, and within a month Woodfield station was closed and never re-opened. This move was strongly criticised by workers at Dungeon Mills, most of whom lived at Lockwood and purchased their 'workmans' tickets at that station. Woodfield had very little chance of originating any traffic other than the mill workers, there being little housing nearby. Later proposals for a halt serving nearby Beaumont Park never materialised.

Beyond Woodfield and Dungeon Wood the line left the Holme Valley and continued through two tunnels, Butternab (250yds) and Netherton (333yds). At Netherton a sizeable station was laid out, complete with a large goods warehouse and a Co-operative Wholesale Soc. coal shed. Within just over half a mile came another station, Healey House, which featured a tunnel 30yds long, the smallest on the L&YR. This was in fact a covered carriageway built so that the approach to the large country house, from which Healey House takes its name, was not 'spoilt' by a view of the railway. The drive to the house was lined by large rhododendron bushes which made an attractive backdrop to the picturesque station.

Special trains were organised from Healey House and the other country house, Crosland Hall, every August for grouse shooting in Scotland. Both families tended to travel on the same day, when all their servants' bags and baggage were trundled down the hill to the station, to be met by their respective trains usually comprising locomotive, L&YR family saloon, and a six-wheeled third class coach.

During World War II, two sidings at Healey House goods yard were covered by camouflage netting to conceal chemical tankers consigned to the I.C.I. works at Huddersfield; in more recent times the goods yard was used to accommodate continental wine tankers bringing in sherry for the nearby Magdale Vinery.

Beyond Healey House, the line passed through a deep cutting at Hall Heys, before crossing the turnpike by a plate-girder bridge set over the road on a skew. The approaches to the bridge were screened on both sides by a series of up-ended sleepers, erected because of a fatal accident in June 1875, when Samuel Mellor Johnson was thrown from his horse which had been 'spooked' by a locomotive. After passing the local beauty spot called Folly Dolly Falls the line continued to Meltham Mills Halt, better known as Spink Station and provided for the workers at the Jonas Brook Thread Mills. In the early years a barn-like shelter was provided, but this was destroyed by fire sometime between 1902 and 1918; after this passengers waiting for trains braved the elements until the closure of the halt.

The Meltham Mills connection is certainly worth recording, for it was mainly on the instigation of the Brook family that the line to Meltham was built. Charles Brook, Junior, cut the first sod near Meltham Mills, which were cotton-thread spinning mills, complete with their own bobbin manufacturing plant. They lay about half a mile from Meltham in a small valley along the Royd Beck. It was originally intended that a spur be built to the mills, leaving the branch somewhere near Hall Heys Wood; this was eventually rejected by the L&YR on the grounds of unacceptable and expensive earthworks.

A compromise was put forward by Charles Brook, Junior, though it is reasonably safe to assume that the suggestion originally came from the railway company. This involved construction of goods facilities at Meltham solely for the company's use, and a passenger station at Spink's Mire. The station was to be an unstaffed halt, with tickets being issued at the mill office. Ticket equipment was supplied to Brooks by the L&YR, with the stipulation that tickets be supplied only to the workers of Jonas Brook & Bros. However, Elisah Brook objected strongly, and the facility was extended to allow local residents, workers' families and company pensioners to purchase tickets at the mill office. Cartage from Meltham station yard to Meltham Mills would involve a lengthy climb up Station Street and down a long descent to the mills. Brooks were also unhappy about

ABOVE: Meltham station c.1912. In the last few years of peace Meltham typified the rural branch line. The photographer has well captured the Edwardian atmosphere; the posters advertising the L&YR ferry service between Hull and Zeebrugge, cheap tickets to Blackpool and train services to Manchester; the ticket barrier across the platform; the five coach train indicating that the spare kept at Meltham has been added to the four coach set for the return journey; the 2-4-2 tank simmering at the head of the train. A truly nostalgic picture.

BELOW: Meltham station in 1951. Two years after the last passenger train, and before the station takes on its role as the David Brown Tractors Despatch Office, it stands sadly neglected, serving only as Mr Trowman's office, who was by then working as goods agent on the line. Plans for a purpose-built tractor despatch office in the goods yard were abandoned in 1951 and the old weighbridge repaired. Photo: A. H. A. Bastable

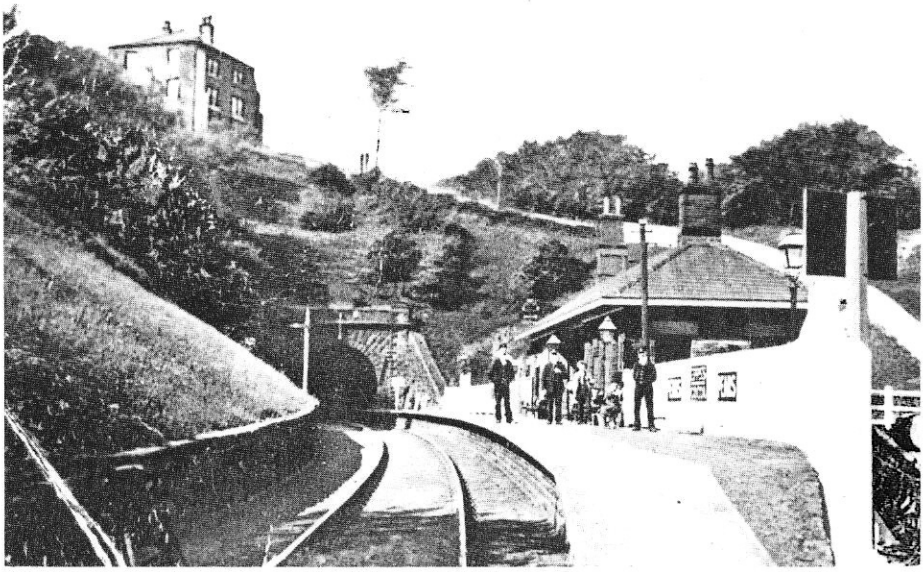
this feature, and required the company to build a special road from the yard directly to Meltham Mills. Due to the large quantities of coal carried along it, the cartway became known as 'The Coalgates'.

Meltham itself had two terminal points, one for goods and one for passengers, with the passenger station being at a much higher level than the goods yard. The original layout at the terminus was very different to that which dated from about 1896. The original signal cabin was located in the 'V' of the junction of the goods yard and passenger line; coal staithes, possibly 10 or 11 in number, were served by two roads, access to which faced the station buildings. About 1894-5 the staithes were singled to just one road. The platform layout was very different with just two roads which split from the single approach road, the point being located just east of the metal footbridge.

The branch was worked as 'one engine in steam and staff' until the new Meltham 'Goods' box opened in 1896 after the introduction of the electric tablet. In the absence of telegraph and signalling it must be assumed that Meltham station box was a most basic affair. From 1896 the 13 lever 'Goods' box controlled the upper end of the line, and was a block post to Lockwood No.2 box. Near to the boxes at Meltham and Lockwood were L&YR notice boards, on one side was 'COMMENCEMENT OF ONE ENGINE IN STEAM', on the reverse 'LIMIT OF ONE ENGINE IN STEAM WORKING'.

Beneath the wooden footbridge were

RIGHT: Healey House station from a postcard dated c.1902. This was an attractive little station which lay less than 1 mile from Netherton station by rail, but involved a road journey of over 1½ miles. It is assumed it was originally provided to serve the two large country houses, Crosland Hall and Healey House, which are located on either side of the station. A private waiting room for the houses was provided, but after World War I it was turned into a general waiting room and luggage office. An extremely busy goods yard ensured the station's survival until closure, but passenger receipts can never have been high. It may therefore be concluded that it was only built for the convenience of the Brook family, builder of Meltham Mills, and promoters of the line.



ABOVE: Netherton station from a postcard dated c.1895. Netherton station was located 1 mile and 63 chains from the junction, and situated hard against the tunnel portal. Located above the tunnel mouth will be seen a primitive water system, which was primarily intended for the station supply, but in later years was also adapated for watering locomotives on their return journey from Meltham.

the points of Meltham engine shed which opened with the branch line in 1868-9. The single road structure was approximately 90ft long, and thus capable of housing two locomotives. A small coaling siding was provided, with a wooden structure which appears to have been an early example of a 'continuous pilot coal stage'. Access to the shed was gained over a 36ft diameter turntable, which was just large enough to turn one of the 0-6-0 Jenkins 4-wheel tender locomotives.

Working the line

For many years the Meltham line was worked by a locomotive called 'Meltham Coddy'. It has been suggested that the passenger engine was also stabled at Meltham along with the goods locomotive, but this would seem an excessive allocation for such a small outstation shed. After the shed closure the line was worked by Barton Wright 0-6-0s, and gradually the old teak four-wheeled coaches were replaced by the tan/lake liveried six-wheel coaches which were then being out-shopped from Newton Heath Carriage Works. These trains gave way to the ubiquitous Aspinall 2-4-2 tanks and the 'Yorkshire Branch Sets', made up from four-coach bogie sets. It was regularly found that four coaches were insufficient and an extra 3rd class coach would be added at Huddersfield; a spare coach being kept at Meltham for even busier trains.

Following the station improvement programme of the late-Victorian period, the platform at Meltham was lengthened and access to the engine shed severed. Despite proposals to convert the shed to housing accommodation, the building was retained as storage space.

LEFT: The first bus bought by Huddersfield Corporation/LMS Joint services, a 20 seater, forward entrance, single deck body of timber construction on a Leyland Cub KP2 chassis. The vehicle was delivered in January 1934.

There may have been a small carriage shed at Meltham, as early maps show a building located at the end of the run-round road moving from the coal staithes to near the goods shed.

The layout of the goods yard altered considerably. The original survey shows only five roads in the yard, and no wagon run-round. In the survey of 1888 it had increased to five sidings and a run-round, and by 1906 it had increased to seven and a run-round. It would appear that prior to 1896 there was a small three-road yard to the east of the station throat, located on an area of flat ground that always looked as though it was made for railway sidings. This area was originally used as a private sidings for Jonas Brook & Bros, one siding being used for timber, and the double sidings alongside the main line probably for cotton traffic.

Major changes took place at Meltham in the mid-1800s; waterworks committees, public health boards, and the gas works, were all introduced. On 31st December 1894 the Urban District Council was formed. Improvements of road and rail facilities were an early priority for the new authority, and though there is no account to relate the changes on the Meltham Branch to council policy, it is more than likely that there was a very definite connection between the two occurrences. Fortunately, proposals put forward at the time, for a tram route between Meltham and Huddersfield (1902 and again in 1909) did not come to fruition, the Huddersfield Corporation being reluctant to operate trams up the Big Valley at Netherton.

Passenger services were worked through to Halifax, Mirfield or Bradford, with 11 trains a day (12 on Saturdays) in 1895. The numbers fell slightly in 1900 but within 4 years there were 12 to 13 trains a day. By 1934 the daily train service had fallen to 11, but there were still 14 on a Saturday, although the Sunday service was discontinued. The Aspinall tanks still worked the branch, but as the newly introduced LMS 2-6-4 tanks became available they took over workings handled by Low Moor locomotives. Some ex-Midland coaches were introduced into the four coach sets but, right up to the closure, ex-L&Y and ex-LNWR coaches worked the line. Freight services were handled by a variety of 0-8-0 locomotives of L&Y and LNWR design, and even some of the Fowler 0-8-0s allocated to Mirfield shed in the early 1930s were regular performers.

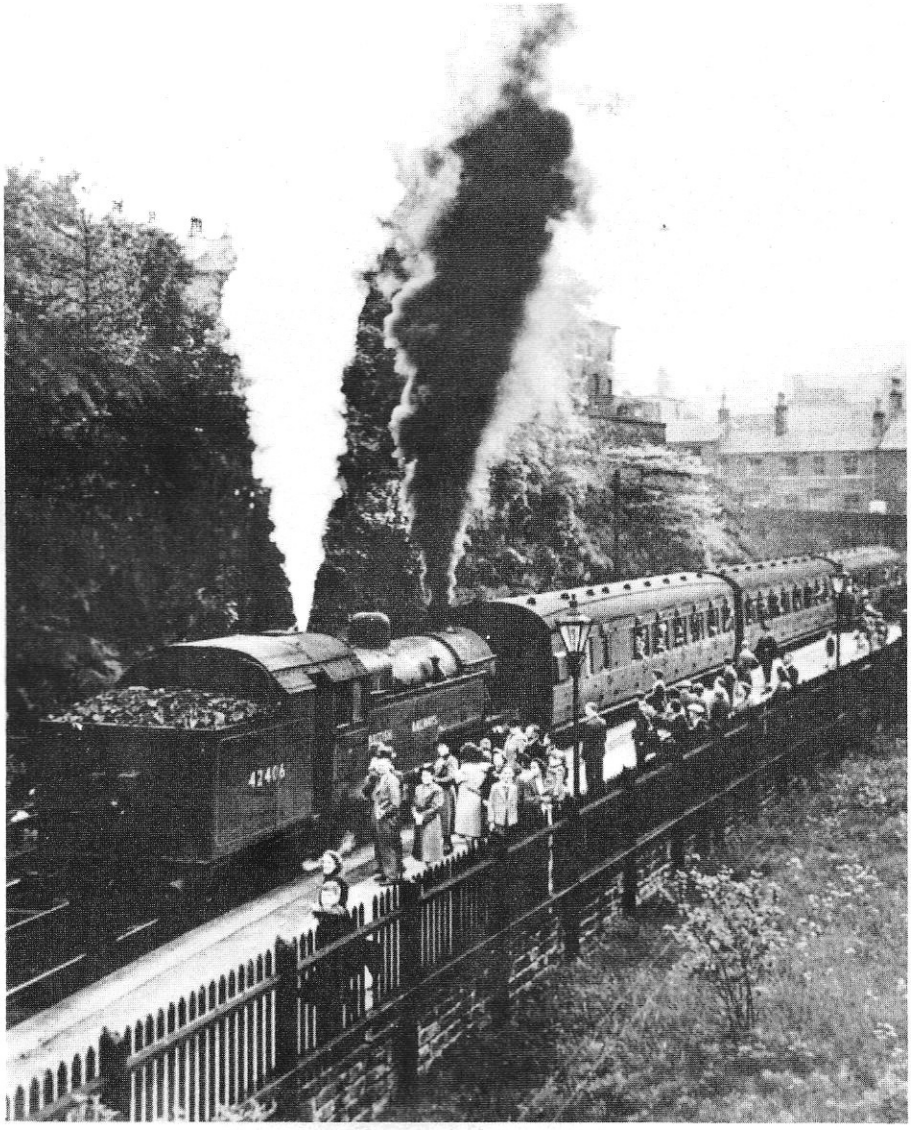
In 1934 the unbelievable happened, when United Thread Mills (a subsidiary of J. P. Coates & Co) announced the closure of Meltham Mills. This threatened the continuance of the branch line, and an immediate consequence was the closure of the halt at Meltham Mills in September that year. Coates transferred many workers to their mills at Paisley in Scotland, but were reluctant to close the works at Meltham. Their local director approached David Brown's to see if they were interested in taking over part of the Meltham Mills plant for gear-box production. They were not, but David Brown, Junior, had decided to enter tractor manufacturing. The Meltham offer came at an ideal time. Coates offered David Brown the entire works on very favourable terms provided 'the workforce could continue in employment with the incoming lessee.'

War and decline

During World War II freight services were increased considerably, mostly due to the growth of the David Brown works, which was engaged in vital military production with a workforce of over 2,500 people. During the blitz of Coventry and Birmingham, Meltham Mills was the only plant in Britain still capable of producing aero gears. Many specials of the era were classified as 'secret destinations'; some were even booked to stop at the closed Meltham Mills Halt, though for what conceivable reason one can only guess.

A feature of the wartime traffic was the trains of armoured fighting vehicles (what price a photograph!) which ran to Meltham for gear-box repairs. A team of specialists was sent to Meltham from David Brown Gears at Lockwood and based at Scar Bottom Mills, adjacent to the goods yard. Many of the repairs were carried out by these engineers without having to remove the vehicles from the flat wagons which brought them to Meltham.

As peace returned, passenger services were badly affected by the motor bus services and were so poorly patronised that on many journeys not a single ticket was sold, neither out nor back. At this time the LMS had a 50% share in the Huddersfield Joint Omnibus Committee, along with Huddersfield



Last train at Meltham. With the introduction of improved bus services to Meltham by the Huddersfield Joint Omnibus Committee (Huddersfield Corporation and British Railways), the passenger trains ceased on 21st May 1949. The size of the crowds surprised station staff, and an extra coach (fittingly, an ex-L&YR brake third) was pressed into service at Huddersfield to make up a three coach train. Even so, many would-be passengers waiting for the last train were disappointed, and were left waiting on the platform as the train pulled out to the explosion of 18 fog detonators.

ABOVE: With the demise of passenger traffic in May 1949, the line became freight only, being served by two pick up goods trains on Monday, Wednesday and Friday, with one on Tuesday, Thursday and Saturday. However, the bulk of traffic on the line, often up to two or three trains per day, were the tractor trains leaving the David Brown factories at Meltham. Trains usually comprised 40 or more flat wagons, and were handled by a variety of locomotives from 2-6-4 tanks to 2-8-0 Austerities. In this 1956 view, LMS Black 5 45101 leaves Meltham 'passenger' branch by Meltham Goods Box with over 45 tractors on board. Tractor trains eventually ceased in 1965 when BR decided to close the line, even though Brown's were wanting to invest in a fleet of car transporter vehicles and a new loading ramp, which would have reduced the time consuming practice of loading one wagon at a time. Photo: David Brown Tractors Ltd

Corporation, and the HJOC operated the No.78 service to Meltham from Huddersfield and service Nos.35 & 36 from Huddersfield to Slathwaite/-Marsden via Holmfirth and Meltham. An independent company, Hansons, operated an alternative Huddersfield-Meltham service, via Linthwaite.

The newly formed British Railways were not prepared to let the situation continue. Accordingly, the passenger service was withdrawn on May 21st 1949, when 4MT 42406 worked the last train. As they had done with the first train, so did Meltham people respond with the last — turning out in their hundreds.

Freight only

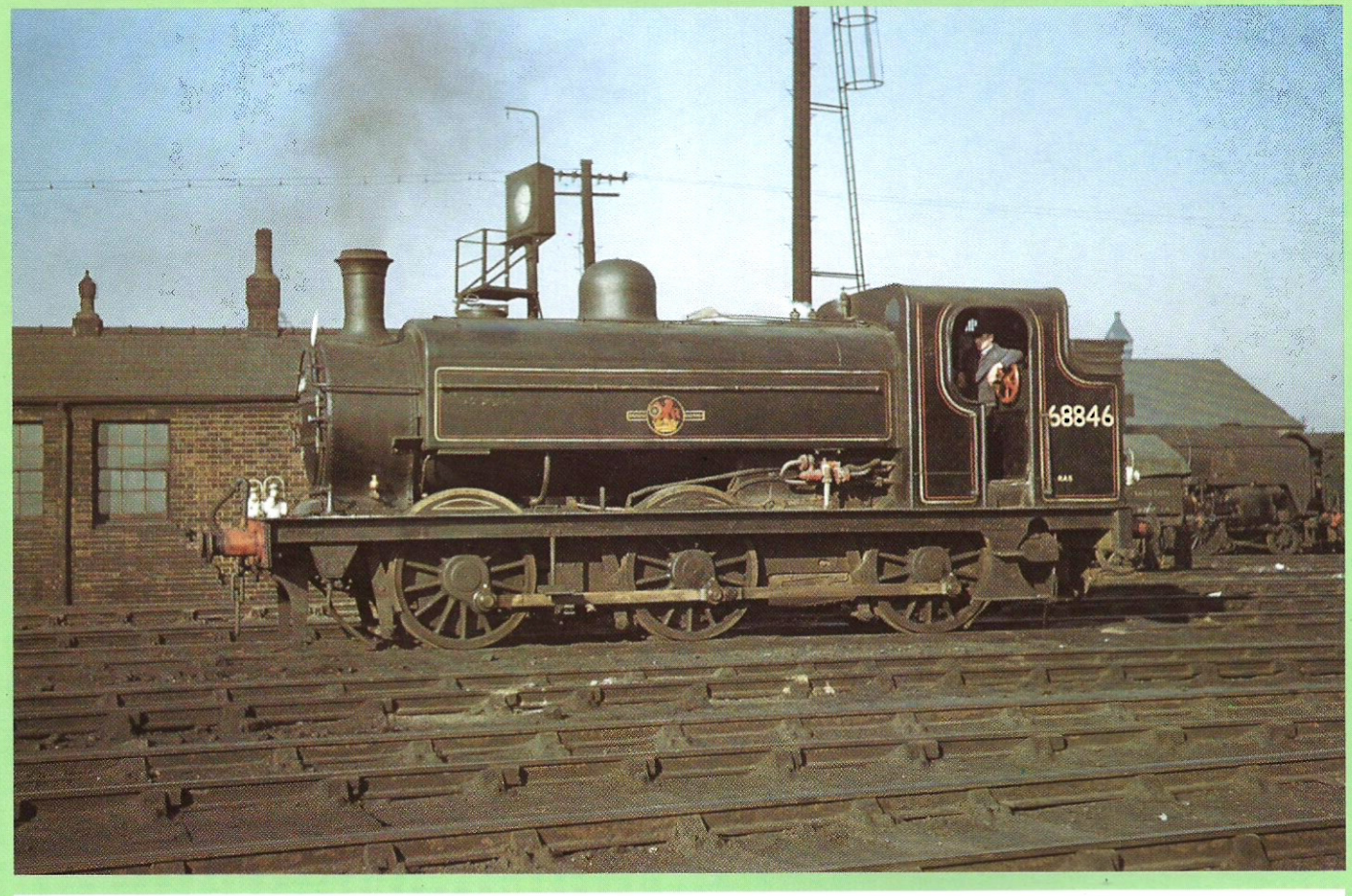
The branch was converted to freight operation, and Meltham passenger station was converted to a single road with a run-round loop, but many special passenger turns worked up the scenic branch line, bound for a variety of destinations including Rhyl, Llandudno and Southport, chartered by organisations as diverse as the Oddfellows Friendly Society, the Co-op Silver Band, and local schools. These excursions included some interesting examples of motive power: Jubilees 45581 and 45573, unrebuilt Patriot 45518, and even a Royal Scot. Most were in the humble hands of the 2-4-2 and 2-6-4 tanks which had formerly worked branch passenger services.

Freight traffic was quite considerable, and large freight locomotives like 2-8-0 and 2-10-0 Austerities were seen along with Stanier 5MTs and 8Fs. The David Brown factory provided a considerable number of block tractor trains, as well as several 'specials' such as the trains booked by David Brown's for the Royal Show between 1949 and 1961. Each year a special train was made up to carry the products of the tractor works, company directors and sales staff, plus a GUV van fitted out as a travelling display room.

Additional traffic was generated from the Meltham Silica Brick Company, with sand on inward trains and fire bricks on outward workings. A special dock was built alongside No.1 siding and leased to the brick company from the 1930s onwards. This confirmed an arrangement going back to L&YR days and resulted in the cross-over between No.1 and No.2 sidings being 'pinned back' in 1932 and removed 1935/6. Coal traffic was quite extensive at the three remaining stations on the branch and wine tankers/glass bottle traffic continued to the Magdale Vinery at Healey House until the line closed.

Despite strong opposition by the freight users, the branch officially closed from April 5th 1965. David Brown's were extremely unhappy about the decision, having intended to invest considerable sums of money into purpose-built tractor carrying rail vehicles. Another development had been the introduction of 'crated' tractors, but BR refused to provide loading facilities for this traffic, so David Brown's were forced to resort to road haulage. Even after closure, Brown's used the line, transferring two tanks of dangerous chemicals from Meltham Mills to the I.C.I. works at Huddersfield for disposal in January 1966. However, opportunity for further shipments ended with the lifting of the track in the autumn of 1966. The trackbed at the Meltham end was taken over for tractor testing and storage, the old goods yard being capable of storing 1350 tractors in neat regimented rows.

Unfortunately the tractor works themselves are now faced with closure, following the take-over of the tractor side of the business by American multi-national J. I. Case. An article I wrote on the Meltham branch in 1973 appeared in the David Brown works paper entitled 'The End of the Line', referring to the demolition of the railway bridges. It ran in the same issue as the news of the newly announced 'merger' of David Brown Tractors and Case Tractors; unfortunately, many employees took the magazine wording 'End of the Line, see page 2' to mean the end of the production line and a strike nearly ensued. □



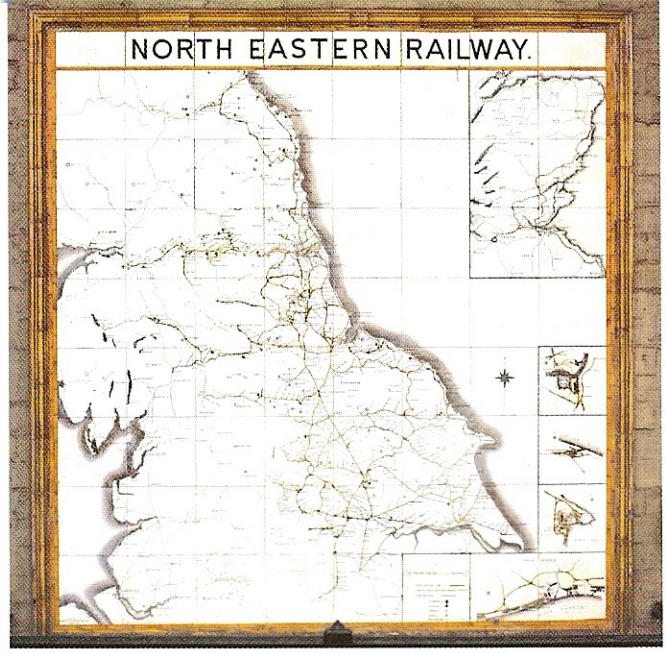
LNER tanks

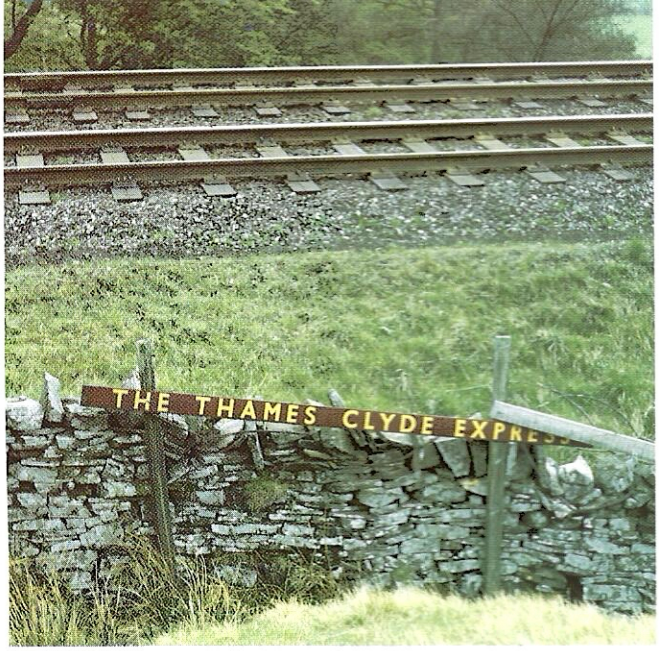
ABOVE: Plenty of 1950s atmosphere is evident in this view of 0-6-0T 68846 between duties at Kings Cross 'Top Shed' on 28th February 1959. Built by Sharp, Stewart & Co at Glasgow in May 1899 as GNR Class J13, this engine was of a type familiar for half a century on shunting operations throughout the GN system, particularly at Kings Cross, Hornsey, New England and Doncaster. The 137 engines passed into BR ownership and dwindled slowly in numbers through the 1950s as the diesel shunters took over; the last were withdrawn in 1961.

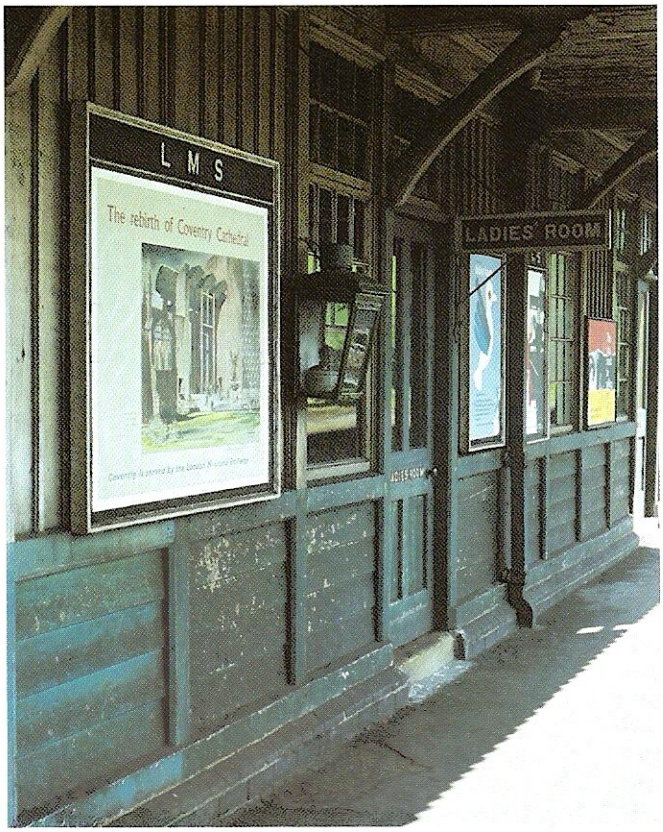
68846 was painted in BR lined black for exhibition at Noel Park in September 1958 and subsequently acquired by 'Top Shed' where it served as shed pilot until its departure for preservation in May 1959. The tank is believed to be the first privately owned loco permitted to work a passenger train on BR metals — from London Bridge to Sheffield Park in April 1962. Photo: W. Potter

RIGHT: Class V3 2-6-2T 67619 awaits departure from Helensburgh Central with a suburban train to Glasgow in early July 1959. The V3 and its predecessor, the V1, were Gresley's standard designs for heavy suburban passenger traffic and worked Glasgow and Edinburgh services from new. Although once used on the GE, GN and GC sections, the 5'8" wheeled tanks were, in the last decade of their lives, concentrated on the North Eastern and Scottish regions. This engine, rebuilt from Class V1 in 1957, lasted until the end of 1962. Photo: K. R. Pirt/K.R. Photographics

Two views from nearly 30 years ago







SIGNS of the TIMES

TOP LEFT: Railway maps for the benefit of the travelling public have long been in the vanguard of the graphic designer's art — the LT diagram, in particular, being generally regarded as a classic. At best, they enhanced the stations on which they were displayed. In September 1975 this fine North Eastern Railway system map survived at Beverley, over half a century after the company had ceased to exist. Photo: Roy Hobbs

TOP RIGHT: Waste not, want not .... and an odd prototype for someone's layout. This Thames-Clyde carriage roofboard, which presumably fell from a passing express, has been salvaged and serves to reinforce a dry stone track side wall at Mallerstang, 4th April 1967. Photo: Robert Leslie

BOTTOM LEFT: Another pre-nationalisation relic — an LMS notice board — at Halton (Lancs, ex-Midland Railway) as late as 3rd June 1963. Photo: D. Codling

BOTTOM RIGHT: The new image, but contemporary with the rest. The XP64 train set of 1964 served as test bed and demonstrator for numerous new ideas. Brush/Sulzer Type 4 D1733 — seen here at Derby shed on 7th June 1964 — and its coaching stock were painted turquoise blue. Most significantly, the engine was the first to wear the new BR double-arrow symbol, a brilliantly simple and appropriate device which has since proved the inspiration for many transport orientated logos worldwide. Photo: T. B. Owen

ABOVE: Modified Hall 6974 *Bryngwyn Hall* **stands at Oxford, 19th April 1956, on the 5.35 pm to Paddington, then the fastest train of the day covering the 63½ miles in 60 minutes. Progress to Oxford was anything but fast, the train leaving Worcester (Shrub Hill) at 3.12 pm and calling at all stations except Yarnton, which was little used other than by Fairford branch trains. In the distance is GWR diesel railcar W12W, then in use on the branch to Princes Risborough via Thame.** Photo: R. C. Riley

WR around OXFORD

Main line and branch working

BELOW: The little Wallingford branch closed to passengers in 1959. 0-4-2T 1444 worked the usual single autotrailer on the last day, 15th June, and was photographed at the terminus which retained its charm until the end. Closure to freight followed in 1965 but, classed as a 'long siding', the line remained in situ to the junction at Cholsey until 1981. The Cholsey & Wallingford RPS was formed subsequently and plans to resurrect the branch. Photo: Dave Soggee

Four of Britain's most well-known, and exhaustively photographed, railway locations, portrayed in the years when they rejoiced in anonymity

Before the

ABOVE: The first section of the Dartmouth & Torbay Railway opened on 1st August 1859 amid diversions which included a 2100 lb pudding and a full scale riot. The company was subsequently almost ruined by heavily engineered extension to Kingswear and the first scheduled train did not reach the terminus until 16th August 1864. With graceful viaducts, a tunnel, 1 in 66 gradients and waterside running, the branch remains a classic. The once extensive facilities at Kingswear, seen here on 23rd June 1958 with large Prairie 4178 at the water column, were much reduced with the advent of diesel power and again when the line was purchased for preservation. Photo: W. Potter

BELOW: LMS Black Five, borrowed from Banbury shed, drifts through Ropley with the 8.55 am Bournemouth-Waterloo on 15th May 1966. During the electrification of the main line to Bournemouth in the period 1965-67 such diversions, including the Bournemouth Belle itself, were commonplace. This scene, of course, is now transformed, with Ropley yard now a powerhouse of activity with the preservation company's main loco depot occupying the area to the left of this view. Photo: Roy Hobbs

preservationists came

ABOVE: The summer peace of the Forest of Dean is broken by the murmur of a 1100hp NBL/MAN engine as North British diesel-hydraulic D6319 shunts Marsh Sidings at Parkend on 10th June 1968. The 3½ mile goods-only branch up from Lydney Junction to Parkend came under threat of closure in 1970 and the Dean Forest Railway Society was formed with the ultimate aim of operating it as a steam tourist line. Today, enthusiasts and their families have replaced coal as the line's lifeblood, but coal may yet return as a source of revenue. Photo: W. Potter

BELOW: In 1988, engines standing outside Carnforth shed are usually immaculate. But what the loco shown here lacks in grooming, it makes up for in rarity value. Outside Carnforth running shed on 8th September 1962 is one of the last two active Patriots, 45543 *Home Guard* with painted nameplates. The other late survivor was 45550; both were Lancaster (GA) engines from April to June 1962, then re-allocating to Carnforth at which shed they were condemned that November. Despite 8-9 months in store at Carnforth — and a further few weeks at Preston — the unlucky pair failed to find a home in preservation and were cut up at Crewe in August and September 1963. Photo: G. Rixon

DIESELS in the 60s

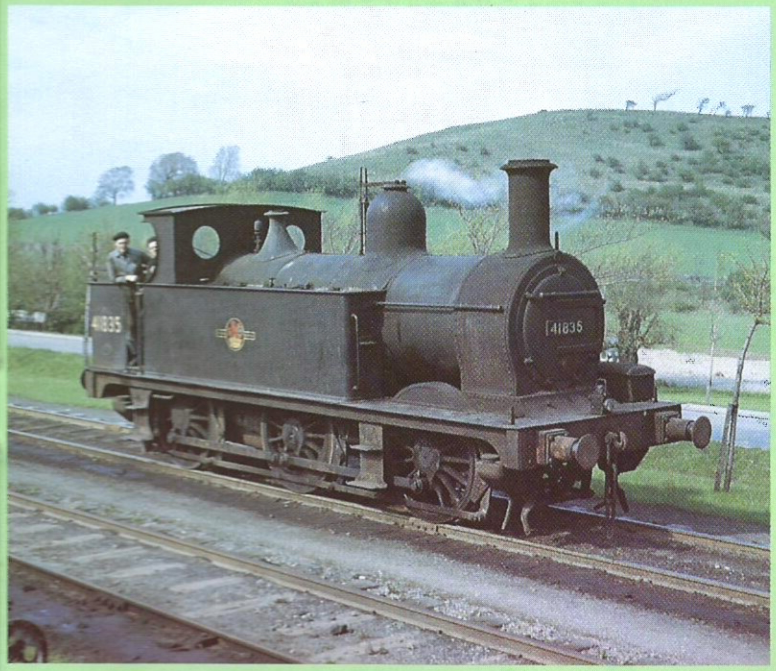
BELOW: The first of the English Electric 1000 hp Type 1 Bo Bos (now Class 20) was accepted into service in June 1957, forerunner of 19 more pilot scheme engines completed inside a year. A success from the start, they were followed by a 1959-68 production run of 208 more, split between Vulcan Foundry and Robert Stephenson & Hawthorn. This view taken at Crewe South shed on 30th August 1964 shows D8056 of the early production series. The livery is original apart from the addition of small yellow warning panels; note the blue star coupling codes and carriage-type lion and wheel emblem. Photo: W. Potter

ABOVE: Abbey Mills (Lower) Junction signal box was situated between Stratford Market and Canning Town on the GER North Woolwich branch opened in 1847 by the Eastern Counties Railway. It was at the junction of an 1858 spur leading to the former LTSR line facing Bromley, where connections existed towards Stepney and Barking. Freight traffic to and from London Docks was intensive and in less than an hour on this Saturday morning six freight and two passenger trains were noted. BTH 800 hp Paxman engined diesel D8229, built in 1960, heads a freight towards the docks, 31st March 1962. Not conspicuously successful, the 44 engines of the class were withdrawn by March 1971, D8229 being one of 23 condemned that month. In the background D6728 (later 37028) can be seen. Photo: R. C. Riley

LEFT: Giggleswick station on the 'Little North Western' line from Lancaster to Skipton, looking towards the junction with the Settle & Carlisle line, in August 1968. From 1852 this railway was worked by the MR using the original company's locos and stock. Initially named Settle, the station assumed its new identity in 1877. Its building was executed to an ornate, half timbered design, not in keeping with the traditional local architecture. Giggleswick closed to goods in September 1963 and was reduced to unstaffed halt from 30th March 1970. Photo: Roy Hobbs

BELOW: Midland Railway semaphores at Stretton on the Chesterfield-Derby line photographed in June 1967. Notice that the signal on the right has a track circuit plate and both have cast iron finials. Photo: T. T. Sutcliffe

BELOW: These Midland tanks, later designated Class 1F, were designed by S. W. Johnson and built 1878-99. They were the forerunners of the standard LMS shunter. Of the 240 original engines, 15 lasted into the 1960s, five shunting at Staveley Ironworks under the terms of a 100-year agreement with the MR dating from 1866. Upon its expiry, the five — the last of the class — were promptly condemned. 41835, seen here at Staveley shortly before withdrawal, was the only 1960s survivor not to have been rebuilt with Belpaire firebox. It also retained the original 140 lb boiler pressure, tractive effort of 15,005 lb and Salter type safety valves on the dome. Photo: P. B. Whitehouse, Millbrook House Collection



Midland Memories

The legacy of Derby lingered until the end of steam, and beyond

YESTERDAY at YEOVIL

Words and pictures
G. F. BANNISTER

RIGHT: GWR small-wheel Prairie 5563 passes Pen Mill locomotive shed (82E) in late spring 1964 with a branch passenger train from Taunton. Pen Mill opened in 1857 as a broad gauge depot. In BR days, it had an allocation of ten engines of the 57XX and 45XX classes; when the shed closed in 1959, some were transferred to the SR's Yeovil Town (72C).

LEFT: Yeovil Town station in the summer of 1964. SR U Class 2-6-0 31798 leaves with a Taunton local. The depot here normally housed some twenty locomotives; it passed to Western Region control in 1962 and closed in 1965 with the demise of steam.

BELOW: Yeovil Junction in July 1964. Opened in 1860, the station was rebuilt in 1907 when quadrupling took place. Unrebuilt Bulled Light Pacific 34076 *41 Squadron* waits at one of the two island platforms with the 11.50 am Yeovil-Salisbury stopper while GWR 0-6-0PT 6435 dutifully occupies the outer face with the shuttle for Yeovil Town.

Yeovil's lavish railway facilities resulted from fierce competition between the Great Western and the London & South Western Railway. The joint station at Yeovil Town did not appear until 1861 when new shared accommodation replaced the original 1853 Bristol & Exeter Railway's branch terminus at Hendford, also reached from the east by the Salisbury & Exeter Railway in 1860. Pen Mill station on the broad gauge Wilts, Salisbury & Weymouth line had already opened in 1856 and a line to Hendford was completed a few months later. On 19th July 1860 the Salisbury & Exeter added a third major station to Yeovil's system with the opening of Yeovil Junction.

Railways have always aroused strong emotions, as all enthusiasts will testify. Fortunately, however, they rarely provoke violence. **TIM WARNER** *describes one episode when they did*

The BATTLES of SAXBY

With the current nostalgia for steam railways, and preservation societies springing up all over the country, our concept of what constitutes classic English countryside seems hardly complete today without the presence of a small train making its way along a peaceful wooded valley amid an intimate patchwork of fields. The country railway has come to be seen as an enhancement of natural scenery.

In the nineteenth century, however, when most of our railways were built, there was no place for such blatant industrialism in most people's concept of ideal countryside. Rural idylls were highly valued, exhaustively eulogised in prose, poetry, and painting and captured by wealthy aristocrats in their private landscaped parks. It has been calculated that in the last century 70% of England's land surface, divided into great agricultural estates, was owned by the aristocracy. In some counties the percentage was even higher.

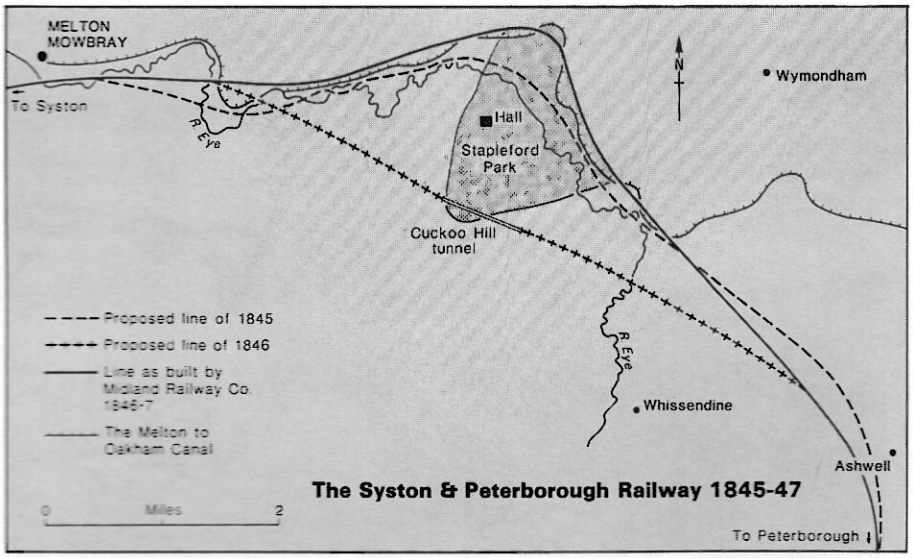
With so much wealth and power vested in so few individuals, the railway companies had to be very mindful of the views held by those whose land they wished to cross — and for the most part aristocrats greeted the railway with the utmost contempt. Apart from slicing across prized hunting 'runs' railways were seen as noisy, smelly, dangerous and, above all, not aesthetic. The problem was compounded when a line was planned to pass within sight of, or even through, the private domain of an aristocrat's estate: the annals of railway history are littered with instances of extortionate sums being paid by railway companies to landowners who were thus affected.

Whereas some accepted financial compensation, others could not be bought; behind the spread of 'Railway Mania' they imagined a darker cause for concern. Many believed the railway would promote insurrection amongst the lower orders, allowing them to move around the country and congregate in politically sensitive areas. Echoing Benjamin Disraeli's fictional Lord de Mowbray in the novel *Sybil, or the Two Nations* many aristocrats feared the 'levelling' effect railways would have on society:

" *'I fear (the railway) has a dangerous tendancy to equality' said (Lord de Mowbray), shaking his head . . . 'Equality is not our metier. If we nobles do not make a stand against the levelling spirit of the age, I am at a loss to know who will fight the battle. You may depend upon it that these railroads are very dangerous things'.*"

It was in the heart of Leicestershire's hunting country, that one of the most violent instances of landowner opposition to railways took place. At Stapleford Park, five miles east of Melton Mowbray, Lord de Mowbray's 'call to arms' appears to have been taken almost literally as the 6th Earl of Harborough took it upon himself to 'fight the battle' against the 'levelling spirit of the age' single-handed. Between 1844 and 1846, in an attempt to prevent the Midland Railway Company from routing their line between Leicester and Peterborough (via Melton, Oakham, Luffenham and Stamford) through his park that the Earl of Harborough fought the 'Battle of Saxby Bridge'.

Stapleford Hall today



The Syston & Peterborough Railway 1845-47

Preliminary investigations had suggested the best route for the line lay along the valley of the River Eye, which, at Stapleford, ran through the grounds of Lord Harborough's mansion. His Lordship at once let it be known that he was vehemently opposed to the line and that no railway employees would be allowed access to his park. Nevertheless, a detailed survey of the route was begun, and on 12th November 1844 a group of railway surveyors, taking measurements along the tow-path of the Oakham Canal, arrived at the perimeter of Stapleford Park. Here they were met by some of the Earl's men who refused them entry to continue their work. One of the surveyors is alleged to have produced a pistol and threatened to fire. "Shoot away" said the Earl's gamekeeper, following which a general free-for-all fight broke out in the course of which nine railway surveyors were captured and (literally) carted away to be charged with trespass. Unfortunately the local J.P. was not available, so the gamekeeper simply tipped the cart up, depositing the railway men ignominiously in a heap. Thus ended the first round of the battle.

But the railway company were not to be so easily deterred. Two days later they returned with their solicitors and a strong body of navvies, reportedly headed by three prize fighters from Nottingham. They met the Earl's men and his legal representatives at Saxby Bridge, just outside the park. A heated argument ensued, in the course of which a party of surveyors tried to force their way past the Earl's men, only to find their way blocked by a barricade across the bridge. A new assault was brewing when officers of the newly formed County Police appeared and threatened to arrest the first person committing an assault — but as they had not come to spoil a bit of sport they would allow

each side to decide the day by *pushing*.

To thus remain within the law both sides put down their clubs and iron-pointed staves and the events which followed were subsequently described by one of the Midland Railway's earliest historians, C.E. Stretton:

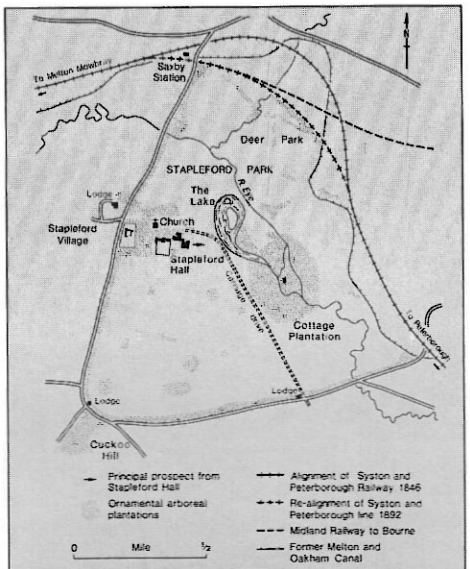
"A grand stand was then made by Lord Harborough's party below the bridge, and nearest Melton, who stood wedged together, forming a living and very formidable barrier. The surveyors next placed rows of their men with their backs to the faces of the Earl's party, and set others in an opposite position to force the way. An almost incredible scene now took place. The railwayists exerted their utmost strength, but so firmly did His Lordship's party retain their ground, that more than one was actually forced high in the air, rolling over the heads of the contending party. Others were forced through the hedge, tumbling over each other, and nearly filling the ditch beneath, amidst the shouts of the leaders and the laughter of the numerous spectators. Great confusion now ensued, the two parties mixing together and in the tumult and dirt becoming almost indistinguishable by each other."

The confusion enabled certain surveyors to break away and begin taking measurements within the park, but they were soon spotted, and after a short chase, their instruments were seized and broken.

Once again Lord Harborough had apparantly won the day, and both sides withdrew to await the outcome of numerous court actions resulting from the day's fighting. But before the cases could be heard, intelligence reached the Earl that the railwayists were augmenting their forces for a third assault. A letter was quickly written to the railway company by the Earl's solicitor warning that "we have barricaded the towing path and have in readiness a few cannons from Lord Harborough's yacht. If you force us to use them, as a last resort, the blood be upon your heads."

The railwayists, however, were undeterred. In the early hours of 16th November a small party of railwaymen attacked the barricade as a diversion allowing 100 other of their number to climb undetected over the park palings and begin taking their measurements. Lord Harborough's men were dispersed over the 800 acre park and could not prevent an extensive area of the parkland being surveyed. The *Times* of 18th November 1844 takes up the story:

"By the time the surveyors had reached opposite his Lordship's beautiful cottage, where he resides, Mr Fabling (Lord Harborough's steward), on a pony, came up, bringing with him a few of his troops. Mr Cope (Chief surveyor) told him that if he wished not to be hurt, he had better retire; and on his refusing to do so the railway men were ordered to remove him. Mr Fabling ordered the measuring chains to be taken up. His situation at that moment was perilous; but being much respected by his Lordship's tenants and servants, they rallied round him for protection, began to feel confidence in their leader and their own strength, and the fight became general."



Railway intrusion at Stapleford Park 1846-92

C.E. Stretton picks up the story:

"The noise was so great it was heard in the village two miles off. The spikes of the railway party were thrust into the sides of the defenders of the park, and after a battle of about five minutes, and many broken heads, wounded sides and faces, the lower grade of intruders gave way . . ."

During the battle the estate's fire engine was brought up to pump water on the melee, and the Earl's cannons (which, it was later revealed, were mere toys) were also in evidence, although not used. The Earl himself, accompanied by Lady Harborough, watched the progress of the battle but was prevented from joining in as he was recovering from a severe illness. His Lordship's 'troops', who were paid 2s.6d a day for their services, obviously took the matter very seriously, and, given the severity of the fighting, it is remarkable that no one was killed.

However, the only outcome was yet another round of court cases for assault and trespass heard at Melton Court on 19th November, the more serious cases being referred to the Leicester Assizes in March of the following year. A lengthy report in the *Times* awaited the outcome of the trials with interest, seeing them as something of a test case for the rights of the individual landowner against those of a large business organisation:

"Warrants for the apprehension of several of the rioters have been granted . . . and shortly some will be brought before the magistrates, when it will be ascertained whether the agents of a powerful Railway Company can thus act with impunity."

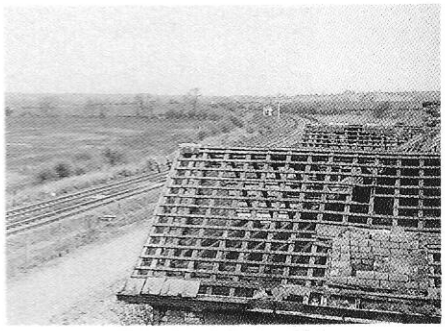
Overall, the Chief Justice proclaimed, Lord Harborough's people had been justified in using force to eject the trespassers from the park, although the actions brought against his men for the damage of surveying equipment and a number of specific personal assaults were upheld.

The question as to whether the railway *could* be built through the park, however, remained unresolved and, accordingly, the 'battles' continued. Fully a year later, in November 1845, when the railway surveyors were investigating an alternative route around the park, Lord Harborough himself drove a gig up and down the high road whilst his men obstructed the sights of the surveyor's theodolites by carrying sheets of calico between them. His Lordship also drove a brake against the surveyor's chaise and ordered the chaise's wheels to be sawn off. In addition, incensed at the collapse of a shallow tunnel the railway company had been constructing under Cuckoo Hill plantation at the south west corner of his park, Lord Harborough personally attacked one of the surveyors. His particular fury, it transpired, was aroused by the loss in the collapse of the 60 or 70 fine beech, elm and oak trees which it had been the very purpose of the tunnel to preserve.

Eventually a line was built at Stapleford, not through the Cuckoo Plantation, but following an alignment not dissimilar to that originally proposed, although remaining outside the park boundary. As if cocking a permanent snook at the Earl and his intransigence, the Company gained Parliamentary sanction to build the line immediately around the perimeter of Stapleford Park, so that to the north and east of the Hall it would be partially visible, and quite audible, to the Earl at every turn.

Perhaps the only comfort the Earl could take in his 'triumph' at keeping the railway outside his park was the inconvenience the curve perpetually caused the railway company. The curve was of such a tight radius that express trains had always to greatly decrease their speed before traversing it.

Today, the rail traveller between Leicester and Peterborough still passes over the curve, and the Hall is still visible, glimpsed through a thin belt of trees unsuccessfully planted to obscure the line. Today's curve does not follow quite the same course as originally built; following Lord Harborough's death (in 1859), and the sale of the Stapleford estate in 1886, the railway company finally managed to gain access to the park and effect their re-alignment of 1892, substantially easing the radius. However, this short stretch of Leicestershire railway will be forever identified at 'Lord Harborough's Curve'.



'Lord Harborough's Curve' today, with the remains of Saxby station. □

ONWARDS from the STAGECOACH

BRITISH COACHING STOCK DESIGN AND CONSTRUCTION

In the first part of this article **DAVID JENKINSON** *considered the underframe, wheels, bogies, buffers, couplings and brakes and commenced a review of the design and evolution of the carriage body. Here, the story continues and concludes*

PART TWO

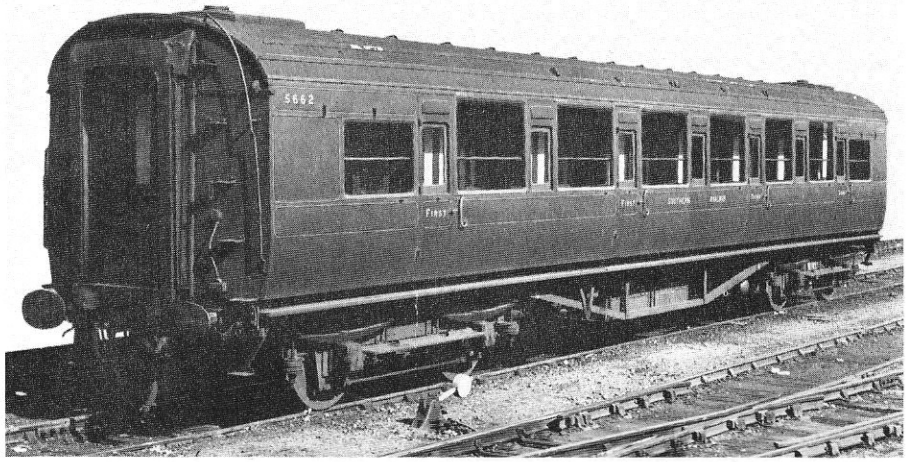
Openable windows were for many years confined to the 'droplight' type — again derived from the window of a stagecoach door which was 'dropped' in its frame either for ventilation or to allow access to the exterior door handle. For a century or more, such droplights were dominantly set in substantial wooden frames but during the 1920s and 1930s, with the advent of tougher glass, it was possible to conceive a 'frameless', spring loaded droplight and these are still a familiar feature of many modern carriages. In time, of course, many other styles of opening windows began to appear, too numerous to list here, but probably dominated by the horizontal sliding top section mounted above an otherwise fixed window.

Turning back to the carriage body itself, it was not long after the first use of exterior steel panelling that some railways could see no real reason to retain outside beading between panel sections. For one thing, steel could be made in much larger sheets than wood, so there were less joins anyway. The GWR was an early convert to this mode of construction during the 'Toplight' era and the LSWR 'Ironclad' was another pioneeering example. However, for many years they went on painting and lining them as though the full beading was present!

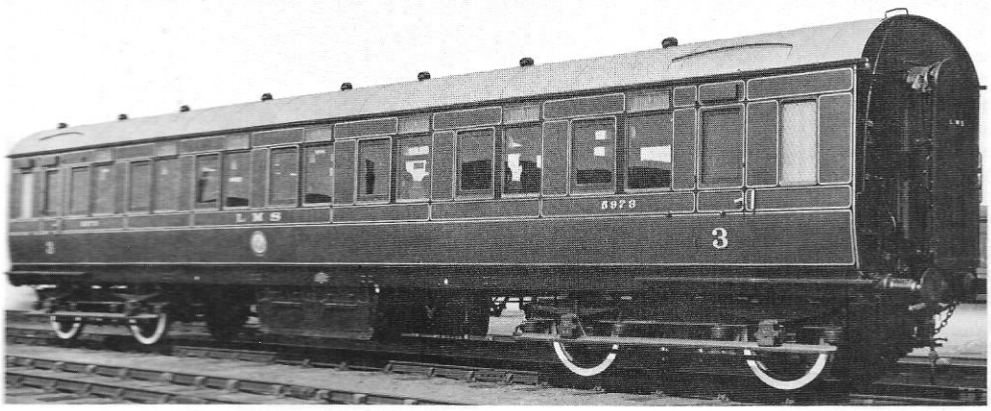
After the grouping, carriage underframes were now exclusively of steel and all four main line companies eventually moved to a wood framed, steel panelled 'norm' for carriage bodies. The GWR was already at that point as was the Southern in succession to the LSWR and the LMS followed suit in 1930. The only sluggard was Nigel Gresley on the LNER who, save for a few exceptions, continued to build the celebrated teak framed and teak bodied carriages until after the outbreak of the Second World War. Mark you, Gresley did incorporate the best carriage bogies, couplings and gangway connections of any of the 'Big Four' and teak is immensely strong and hard-wearing, so maybe honours were even.

Mention of gangways serves as opportunity to consider the third area of inconsistency referred to earlier. Towards the end of Victoria's reign, many railways began to introduce the familiar continuous corridor and this involved a gangway at the carriage end but, inevitably, two sorts were developed. The 'British Standard Gangway' was associated with screw couplings and side buffers while the so-called 'Pullman' gangway came from America along with buckeyed carriages.

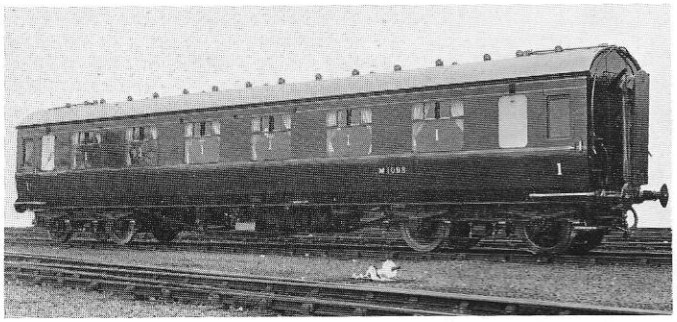
The two types were, of course, incompatible both in terms of size and



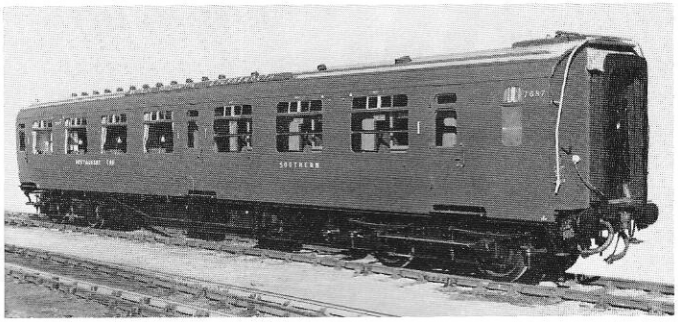
RIGHT: This Maunsell Southern Railway 59ft corridor composite 5662 of 1932, typifies the earlier stages of steel panelled, wooden framed carriages in Britain. It has no exterior beading and there has been some effort to conceal the panel fixing — not very successfully! It has a modern angle-trussed underframe and Pullman gangways but the overall styling, eg the window framing and multiplicity of droplights, still harks back to a previous era — as does the livery. An attempt has been made to modernise the lining but it still suggests a sort of fully panelled style. Photo: SR Official courtesy NRM



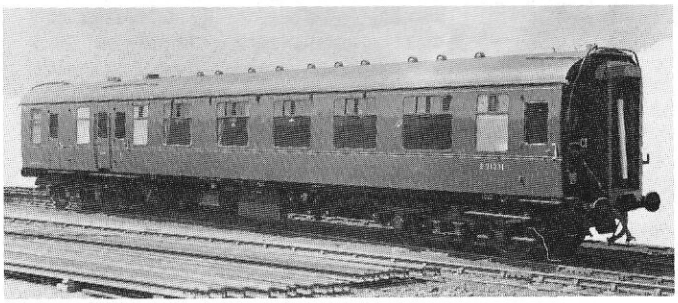
LEFT: Structural modernity on the LMS was represented by the 'all steel' open thirds of the 1920s. This example, 5973, was built by the Birmingham Carriage and Wagon Co in 1926. Its lack of conventional underframe is revealed by the absence of trussing, the framing round the battery boxes being nothing more than a support for the same. But there is still the old type gangway and couplings — the LMS never changed this — and the livery is a totally phoney imitation of non-existent panelling; but it looks acceptable. Photo: BR LMR



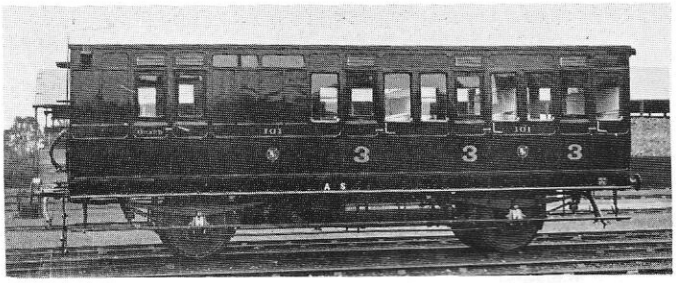
Flattering to deceive, this modern looking Stanier pattern first class corridor, M1098, built for BR at Wolverton in 1948, is basically a wooden bodied vehicle, but its austere livery is at least honest. These carriages were some of the last to be built to company design and for all the conservatism in their construction, were not really threatened in terms of basic quality by their BR successors. Photo: BR LMR



The much maligned Oliver Bulleid can perhaps be given the prize for the most stylish looking pre-BR flush sided stock. His post-war Southern corridors were the first to embody a continuously curving body side profile — a feature copied in the BR MkI stock — and this gave them a very nice visual balance; it was also genuinely new. But their construction was a bit old-fashioned; they still had wood and canvas roof coverings, for example. Also, Bulleid still liked to embody individual exterior compartment doors far more than was necessary. This handsome example is a semi-open first class 7687 with open saloon for dining at one end and side corridor compartments at the other. Its livery and lettering are totally honest. Photo: SR Official courtesy NRM



The BR MkI carriage was a handsome looking design and its long period of currency enabled it to establish a stylistic consistency throughout the system. It is, in 1988, somewhat rare on principal InterCity routes, though still strongly represented in the Southern Region EMU fleet. It is also the main standby for many preservation societies and doubtless familiar to most readers. I have, therefore, quite deliberately chosen to include but one example in this survey. It is perhaps the most typical of all, representing as it does both classes of accommodation plus a guard's van: corridor composite brake E21231, built by the Gloucester RC&W Co Ltd in 1960. Photo: BR Official courtesy NRM



This four-wheel third class brake 101 embodying essentially LNWR design standards, was built at Wolverton as late as 1910 for use by the LNWR's associated North London Railway. It was by no means the only 20th century reversion to an obsolete form in the interests of economy. The Caledonian did just the same at the time of the grouping! Photo: BR LMR

shape and in method of working. The BS gangway had to be pulled out from its metal housing and clipped to its adjacent partner whereas the Pullman type, though still carried in a metal housing, was simply compressed against its neighbour by the action of 'making' the buckeye. Where the two had to be fixed together for operational reasons, the BS gangway needed to be 'adapted' (by means of welded or rivetted frame extensions and supplementary gangway clips) so as to be capable of fixing to the generally larger dimensioned Pullman type. It was not until BR days that the Pullman type was made standard. Until then, the LNER (and Pullman, of course) used Pullman gangways, the GWR and LMS (save in a very few exceptions) used the BS gangway and the Southern could not make up its mind for many years — it eventually went to the Pullman gangway for main line stock.

The final stage in carriage body development was the move to the 'all-steel' body form. In this, both the framing and panelling were made from steel and either rivetted or welded together. This was, of course, a much stronger form and made for a far more rigid body carcass, so much so that in many cases, it forms a rigid 'box' girder and can dispense with a conventionally separate underframe. This is the common modern technique but it took some time to become established in Britain. It began during the company period and the leading pioneer was probably the LMS.

During the 1920s, the LMS ordered from 'the trade', some considerable sized batches of integrally constructed all steel passenger carriages and full brakes, both without conventional underframes. They repeated this a few years later for a few more smaller batches of carriages and, right at the stroke of Nationalisation, produced a new standard carriage design which also embodied an 'all-steel' body but still in conjunction with a separate underframe. Meantime, however, the vast majority of LMS coaches continued to be built on the wood framed, steel panelled principle; the smooth and flush sided appearance of a Stanier carriage from 1932 onwards always suggested something a bit more structurally modern than was really the case!

The same was also true of Thompson's, Hawksworth's and Bulleid's flush sided post-war stock for the three other companies but at least by the time of Nationalisation, all four lines had got something recognisably similar. Thus, the BR MkI was no real surprise to anyone, having a bit of everything in its design. Its general shape and profile was Bulleid (SR), its bogies were sort of GWR (they would have been better to copy the LNER!), its gangways and couplings were Pullman plus buckeye and the body construction (all steel shell mounted on a separate underframe) was probably nearer to the final LMS type than anything else. It was no bad synthesis, if somewhat unimaginative in terms of its interior decor and it certainly displayed a handsome looking external form.

But what, then, of the 'proper' all-steel carriage? The LMS clearly could not make up its mind, in spite of its lengthy experience with the type, and the other lines showed no real inclination to copy. Thus the fully integral type had to wait its time. The irony is that as long ago as the mid-19th century, the American Pullman company had been building integral box girder type carriage bodies of immense strength in

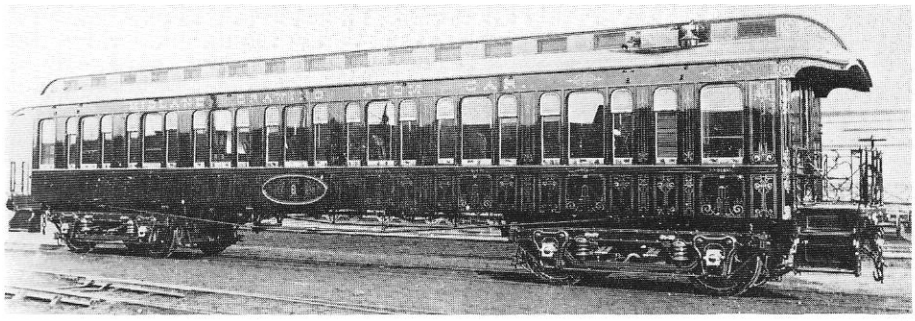
wood and the British Pullman company had been using them since the 1870s in England! But nobody took too much notice of the fact that only halfway through Victoria's reign, there already existed a far better and stronger way of building a railway carriage body than anything we had come up with along traditional lines in Britain; even the Pullman interior pointed the way forward and that is the subject to which we must now turn.

Styles

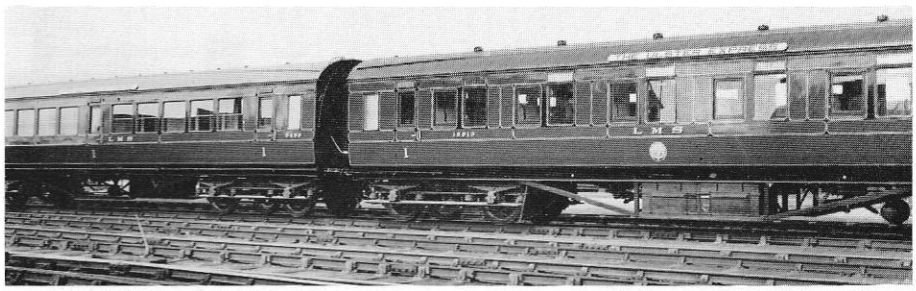
The British carriage took a long time to evolve from its original three compartment form and for the best part of forty or more years after the opening of the Liverpool and Manchester Railway, just about the only things that changed to any marked extent were the size of the vehicle, and to some extent its external styling, particularly in the case of third class types after Gladstone's 1844 Act had, *inter alia*, forced all railways to roof them over! The stage coach origins remained obvious for many a decade and it was really only on the broad gauge GWR that anything markedly different was attempted. On this railway, six wheel carriages were normal from the beginning and this eventually became a common form on many other railways too. For one thing, it allowed rather more compartments to be provided in each carriage, the three axles allowing a heavier carriage to be made without overloading. Five compartments was the common standard but some railways put six into the same length. Mind you, it did not take many of them very long to discover that once better and stronger materials had been developed, thus allowing permitted axle loadings to rise, one could quite often get the now customary five compartments onto but two axles; so back came the four wheelers again and some pretty dreadful specimens were to be seen into the 1930s and later, even on our more prestigious railways.

Basically, the compartment carriage never went out of favour. The British approved of its privacy and the railways also liked it, especially for the lower orders, mainly because of its capacity to pack the maximum number of people into a given amount of space at a low capital cost of building. The type merely grew longer and longer and by the bogie carriage period, ten or eleven compartments in a suburban non-corridor third were by no means uncommon. They have only really died out in the last few years with the final scrapping of their last grand fling — the Southern Electric 'slam door' compartment stock. In this context their final departure was mourned by very few!

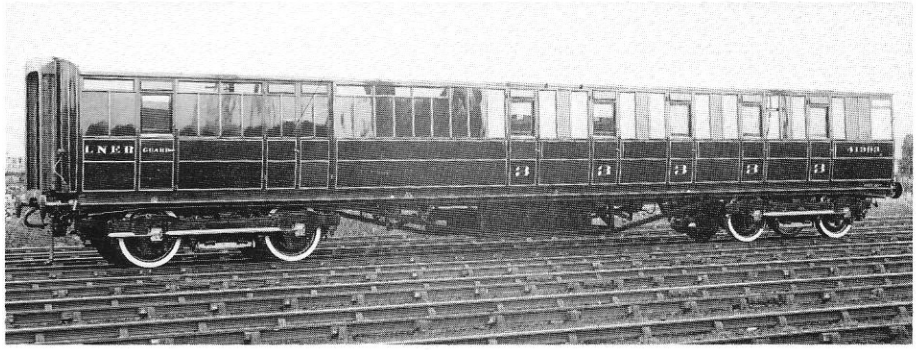
It was, however, rather different in the long-distance field. Here, the customer could (and did!) voice his displeasure from time to time. What is more, there was a greater element of competition to face than on the more purely local lines; one could eventually, for example, choose no fewer than four railways between Manchester and London and this kept the companies on their toes. The pioneer in this respect was unquestionably the Midland. By



This familiar image of Midland Drawing Room Car No.8 is, none the less, still one of the best pictures to indicate the revolutionary qualities of the newly imported Pullman-built cars of the 1870s. The massive construction, lack of conventional underframe and the equalised beam bogies are readily apparent — also the lack of entrances save at the carriage ends. Photo: BR LMR



The LMS was early to adopt open carriages on a large scale. The first examples could best be identified by their 'twin windows' (one fixed and one drop light) for each seating bay. Here, open first 15913 (right) is coupled to side-corridor first 3499 in a posed 1927 shot to show a new style of carriage headboard — 'Ulster Express'. The side-corridor carriage had no individual outside compartment doors and only three on the corridor side seen here. Even at this early time, the LMS had decided to reduce the number of side doors though still retaining other traditional features, eg full panelling and lined livery. Photo: LMS Official courtesy NRM



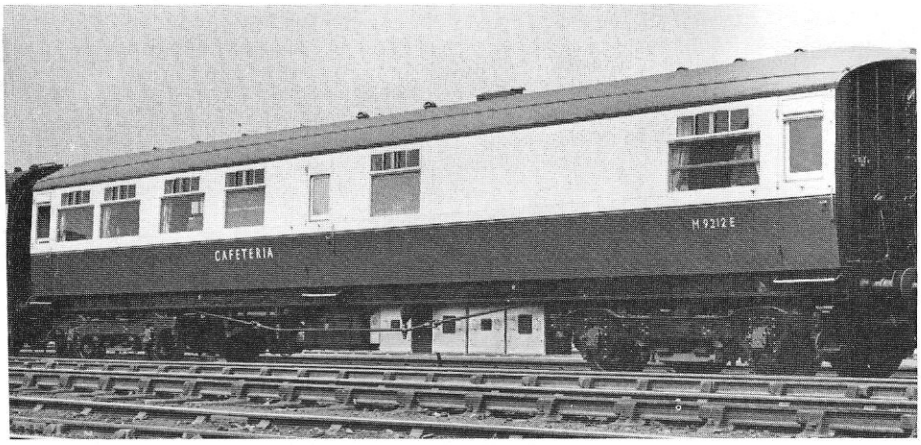
This Gresley LNER corridor third brake 41393 with angle-trussed underframe, is quite a modern carriage, dating from the 1930s, but its handsome appearance is rendered rather more old-fashioned than most other contemporary British stock partly by the continued use of wood surfaces and raised beading and also because the LNER was quite late to eliminate individual compartment doors. When it eventually did so, even the wooden bodies seemed far more modern. Photo: LNER Official courtesy NRM

abolishing second class, improving third class to 'better than second class' standard and by reducing first class fares – all in the mid-1870s - it not only moved passenger expectation a giant step forward, but also forced its main line rivals to follow suit. In some cases they eventually went 'one better' and by the time of the grouping, there was little difference in standard between most of the larger companies as far as their better long distance stock was concerned.

Creature Comforts

Carriage evolution during the last quarter of the 19th century was as rapid as it had previously been slow and most of the improvements were directed to three fundamentals. First came the lavatory. The railways did not really like this idea at first — it took up revenue space (!) — but they had no real choice. They also tended to be a bit parsimonious in earlier days, inserting maybe a pair of lavatories

BELOW: This view of a pair of Lancashire and Yorkshire suburban carriages in LMS livery at Darwen in February 1929 is interesting on two counts. First, it clearly shows the ultra plain surface 'texture' of the LYR wooden bodied vehicles built at the turn of the century compared with those of most other railways but it also shows how the LMS tried to disguise it as full panelling after 1922 — the LYR would never have done that! Note, especially, how the lower panel sheeting was set back in relation to the upper panelling — and also the very neat window frame arrangement. Photo: LMS Official courtesy NRM



ABOVE: Only the fact that the original wooden side sheeting has been replaced by flush steel panels prevents the new BR livery of this former Gresley LNER carriage from being unacceptable. Even then, the BR red and cream never 'sat' too happily on ex-LNER vehicles. This is a 1954 cafeteria conversion M9212E carried out by the LM region. Photo: BR LMR

LEFT: Classical Churchward 'Toplight' panelling and fully lined crimson lake livery on the magnificently restored 'Nondescript' GWR third class saloon 9055 on the Severn Valley Railway. Even though many preferred the chocolate and cream, the simplified version of this scheme never suited the panelled stock as well as did a lined livery, even of the monotone variety. Photo: D. Jenkinson

between two compartments and leaving it at that; and it could need quite a bit of detective work to find that part of the train which possessed the creature comforts! Some railways were better than others and some took it to ridiculous extremes, but none of them ever came up with the perfect answer until two more ideas, designed to meet other bodily needs, also came into the reckoning. These were sleeping and dining cars, introduced in 1873 and 1879 respectively by the NBR and GNR. It took time for these latter ideas to 'catch on', but once they did, it was but a short step to the more general adoption of side-corridors, both to gain access to the lavatories (which now only needed to be at the ends of the carriages rather than between almost every two or three compartments) and to allow passengers to gain the use of the dining car, or even the sleeping car if the journey had started quite early and the passengers wished to travel in orthodox seats until bedtime.

Although all these developments materially improved the standard of the carriages themselves, in one respect British travellers remained obstinately (or sensibly?) conservative; they still wanted their compartments. In fact, given a choice I guess many of them still do! For, although the non-corridor compartment carriage can often be an unmitigated horror in the suburban environment, when it is associated with side-corridors, lavatories and other mobile amenities, it can be a veritable haven of peace — especially if the travelling party is just big enough to reserve a complete compartment to itself — and many were.

The side-corridor long distance carriage was mostly pioneered by the GWR and LNWR — hardly surprising in view of their dominant size — but such as the Midland and the GNR were not far behind; neither, rather interestingly, were such less likely contenders as the LYR, NER and GER. North of the border, the Caledonian and NBR weighed in with some pretty good stuff but south of the Thames, save for a half-hearted attempt by the LSWR and a very last minute essay by the SE&CR just before the grouping, there was little corridor travel — which was a pity because the relatively few LSWR corridors, diners and sleepers were very good carriages. Thus, although the principal lines to the north and west of London, not to mention those in Scotland and many of the English regions, were well served by corridor coaches by Edwardian days, it was not until after the grouping that this type of vehicle became the customarily expected type on all longer distance trains.

Pullman cars and their influence

By then, a few other ideas had been inserted into the reckoning and to trace their evolution, we have to go back again to mid-Victorian times and the appearance on the scene of George Mortimer Pullman. It is well known that the introduction of Pullman carriages into Britain was closely associated with the Midland Railway's activities of the 1870s. The better

structural quality of Pullmans has already been noted; for the record, they were also the first bogie carriages to run in this country — the Midland soon copied — but what is perhaps more important is their interior layout, which arose as a natural consequence of their structural form. Never was form and function more closely linked than in a wooden bodied Pullman car.

The basic structure of a Pullman was of a rigid wooden body which was built with immensely strong scarf-jointed lower frame members running the full length below window height. No way could outside compartment doors be inserted into this sort of structure. Moreover, it was so strong that it needed no separate underframe. King pins could be affixed direct to the bottom of the car floor as indeed could queenposts and truss-rods (still needed to brace the whole structure) and all other ancillaries. The penalty for this form was that entry, normally, could be gained from the carriage end — usually in the form of an enclosed 'Vestibule' entrance but, in the earliest examples, no more than an open platform.

This body form lent itself to the open plan interior so familiar today, with a central aisle between the seats. This made some sense when in the dining car form — and set the standard for these vehicles ever afterwards, but the open, American style, 'Parlor Cars' and day coaches were far too democratic for most contemporary travellers. It was one thing to ride for an hour or so in the dining car to take a meal but to travel 'all the way' in this fashion — no thank you! As for the convertible Pullman sleeping cars which also displayed this central aisle — hmmm! Yet there is no doubt that the vehicles were more comfortable and rode far better.

To be fair to Pullman, he was a little ahead of his time in relation to Victorian social mores, but some folk liked them and it did not take the Midland long to copy some of Pullman's ideas in its own carriages — and by the turn of the century there were many folk who would willingly ride 'all the way' in one of the Midland's magnificent dining cars, especially those which were operating in otherwise non-corridor trains; there were quite a few at the time. Pullman also made quite an impact south of the Thames, particularly with the Brighton line and, later, the SE&CR. Here, however, he concentrated on catering vehicles, often in association with boat trains to the channel ports and this association remained strong with the new Southern Railway after the grouping.

Meantime, the mere fact that some railways, however briefly, had tried out a few open plan carriages, conceivably in the wake of Pullman in some cases, made some of them a bit more venturesome and the general idea saw something of a revival at about the end of the Edwardian era. It was led, rather against expectation, by the Lancashire and Yorkshire Railway, though it was not quite alone. As part of a general move to upgrade services to its more prosperous hinterland — it did have some (!) — the LYR introduced some centre-aisle high-roofed open stock with entrances at the end. Such a carriage would scarce rate a mention today, but it was quite a pioneer at the time. And it led the LMS successor to much greater moves in this direction.

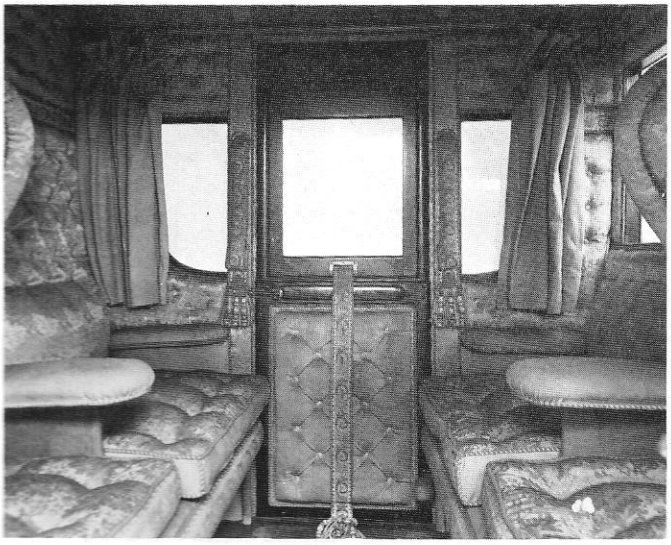
Interior layouts

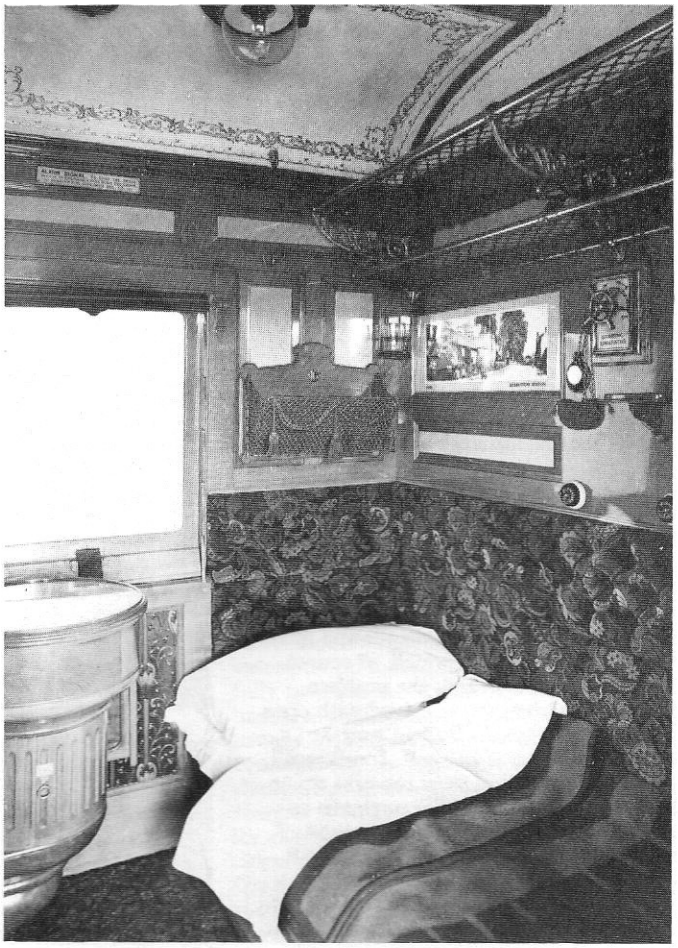
The open saloon carriage has quite a number of advantages over the side corridor type. For one thing, having far fewer outside doors and interior partitions, it is, foot for foot, cheaper to build. Secondly, its seating capacity is either larger than an equivalent sized side corridor, or is more comfortable for the same number of seats. This merits a little more explanation. When corridor coaches were first adopted, three per side was normal in the second (for those still offering this category) and third class compartments, and two per side in the firsts. This was because the coaches were mostly only 8ft wide. However, when coaches began to get to 9ft wide, three per side firsts and four per side thirds became customary. Now three per side in the first class of a 9ft wide corridor coach still gives a very comfortable seat but four per side in the thirds was a bit cramped. If, however, these four seats were split two plus two on either side of a central aisle and there was, moreover, no corridor wall to be provisioned, it was found that not only was the interior effect more spacious but that seat dimensions were not quite as cramped.

It did, however, take some time for the idea to become more widespread or even acceptable and the undoubted pioneer company was the LMS. During the 1920s, it built open stock almost one for one with side corridors. It tried to pass them off as 'excursion' carriages — as indeed did the other three companies when they too tried the idea — but when some of them began to appear next to kitchen cars and with their tables laid out for lunch, nobody was fooled for

BELOW: Up-market first class, 1842 style — the sumptuous interior of London and Birmingham Railway Carriage No.2, used by HM the Dowager Queen Adelaide until 1849 and, mercifully, preserved at Wolverton for well over 100 years prior to entering museum ownership in 1963. It may now be seen at the National Railway Museum, York. Photo: Crown Copyright, NRM

RIGHT: Classic early 20th century carriage interior styling — a first class Midland sleeping compartment of 1906. The fashionable 'Art Nouveau' style of decoration is clearly evident in the Lincrusta wall and ceiling panelling, while the wood surfaces are several shades lighter in tone than during Victorian times. Photo: BR LMR





ABOVE: The transitional twenties are represented by this interior view of an LMS open dining carriage of 1925. There is a sort of uneasy mixture of simplified seat-end and wall panelling design combined with traditional upholstery and almost 'avant-garde' light fittings; but the overall effect is really quite pleasing. The exterior of the carriage has been seen earlier in this article. Photo: LMS Official courtesy NRM.

long and a few open thirds in an LMS express soon became quite normal. The first class version, of course, had its seats set either singly, or at very worst two plus one in respect to the centre aisle.

Even so, the side corridor carriage went on being both used and built. Indeed, the LMS actually took it several stages further. In the late 1920s, it began to suppress the outside compartment doors and offer much larger 'picture' windows. It then began to offer three per side thirds (with courtesy lights above the seats) in all the new Stanier corridors, plus similar retrospective modification to much of its older stock; on some of its luxury stock, the first class compartments had but two seats per side. True, the thirds had folding armrests to allow four per side at busy times, but, speaking from memory, it was a brave man who, even in a crowded train, ventured to suggest that the arms be folded away!

The LNER soon copied the 'three per side' idea in the third class and it too, eventually abandoned individual exterior compartment doors for some of its new stock, but it always had more draughty doors than did the LMS. As for the GWR and Southern, they consistently built side corridors mostly with outside doors and always four per side thirds to the very end. They argued that this allowed more seats at holiday time, which, of course, was true; but as stated, the problem would have been better solved with open stock, a move which Bulleid was actually making at the end. I well recall my surprise, having been brought up on a diet of LMS and LNER carriages as far as express trains were concerned, when I took my first trip on the GWR equivalent. To find four per side 'straight-backed' thirds on a train which was going to take longer to get me from Paddington to Swansea than did my comfortable LMS or LNER thirds between Leeds and London with their folding armrests and courtesy lights, was something which even as a child, I found distinctly below par.

To be honest, by the time of nationalisation there was no sign that the railways could make up their minds about open versus corridor stock and the whole matter was taken to an even more ridiculous state when BR began building its MkI corridors with four per side thirds (seconds after 1956) for the Western and Southern Regions and three per side for the rest, all the which while it was turning out 'two plus two' open stock for all six of the original BR regions! There were both open and side corridor firsts as well and also a few 'two plus one' open thirds, ostensibly for dining but often used in general service; if you were smart enough to spot one on a train, these could be very agreeable indeed. It was, of course, all far too inconsistent in a modern railway *(sic!)* and eventually, like it or no, BR standardised the open 'two plus two' seating arrangement for second class carriages during the MkII period and inflicted 'open plan' on *both* classes with the MkIIIs, the firsts, of course, always retaining 'two plus one' seating. There are, however, still a few genuine corridor coaches lurking around in the innermost recesses of the BR carriage sidings and I doubt if we have heard the end of the type just yet — it is very much part of the British travelling tradition.

As for the other types of coach, principally sleeping and dining cars, the basic layout (side corridor sleeping cars and kitchen facilities plus open style seating in the diners), established in late Victorian times, has never been bettered. There were, to be truthful, a few experimental dining vehicles from time to time in which tables were set up

ABOVE: The 'Art Deco' style — well almost! This is the first class end of a Stanier open composite dating from 1939. The wall treatment depends entirely upon the grain patterns of the 'Selected Empire Timbers' which the LMS was so fond of promoting at the time. Though never reaching the absolute heights, as did the LNER and occasionally the GWR, in some of their special carriages — and, of course, Pullman — the LMS probably achieved a better overall standard for general service stock than anything built until the BR MkII era. Photo: BR LMR.

in conventional side corridor compartments but in essence, like so many things about the railway carriage, only the styles and fashions have really changed down the years, which brings us to the final part of this review.

Decoration and liveries

Until the advent of the modern and trendy 'designer styled' imagery of the current BR scene, railway carriage builders tended to go their own way when it came to such matters as interior decoration and exterior livery. In doing so they also regularly managed to produce objects which were often of supreme beauty as well as practicability, a fact which perhaps says more about them than it does about our own efforts, but this is perhaps dangerous ground to tread!

Reduced to its essentials, carriage interior finishing is all about the provision of seats and fittings, while exterior painting is no more than the essential protection of the basic surface materials, but history has seen to it that the subject embraces far more than that. As always, as far as railway carriages are concerned, it goes back again to the stagecoach era and we might as well start with the most visibly obvious part of a railway carriage when first encountered — its livery.

Carriage liveries derived their original nature from the often colourful stagecoach era when the very form of the vehicle itself made the excuse to decorate the exterior panelling and beading with whatever seemed most appropriate at the time. Paint was, as well as having protective status, a means of establishing identity and, in both its application and detailed decorative treatment, an opportunity for the craftsmen to show both their pride and their skill. Thus it remained for almost the whole of the steam railway era.

At first, carriage liveries, as with the stage coaches which preceded them, tended to denote a form of service rather than ownership. Thus, mail coaches would be differently painted from ordinary stock, while in many cases, the different classes of carriage would bear different liveries. This, of course, had some practical advantages in terms of finding the right carriage in the train, but it was not long before the railways realised that it was actually more important to identify *their* company as opposed to the competitor and thus, company liveries began to supersede and eventually replace the older forms. In consequence of this change, it soon became very common to incorporate additional wording on the sides of the carriages to give the same sort of information as had formerly been denoted by carriage colour. Thus began the branding of carriage doors by class, the labelling of guard's and luggage compartments and, later, the more specific labelling of sleeping, dining and other dedicated vehicles.

During the wood panelled era, most liveries tended to emphasis the basic nature of the construction with a proliferation of lining and often, in addition, the use of a two colour livery — this too being a 'throw-back' to stage coach practice. Many indeed were the attractive schemes resulting therefrom and it would be a very rash man who claimed *primus inter pares* for any of them.

Perhaps the most innovative interiors of the 1930s were those offered by the LNER in its special streamlined and other dedicated sets. The firsts had a sort of 'French' feel to them and both classes were light years ahead of most other LNER interiors at the time! This is the *third* class interior of the old 'East Anglian'. The interiors of the 'West Riding Limited' were similar and the author has happy memories of using them just after the war when they were regularly rostered on the 0750 from Leeds Central. Finished in attractive light coloured shades, they really were very good. Photo: LNER Official courtesy NRM

The use of elaborately lined liveries, whose basic character was based on the disposition of the vehicle panelling, became far less relevant when exterior surfaces became smoother and less detailed as a result of steel sheeting; but for quite a number of years, so strong was the old tradition, 'pseudo' panelling was rendered on the mainly flush surfaces. The GWR was one of the first to adopt this idea with its steel panelled 'Toplights' well before the grouping. The Caledonian also did a bit of this sort of thing but after 1922, the LMS was just as happy to imitate the idea with its 'all steel' coaches of the 1920s and continued thus with all its flush sided carriages until 1934. The Southern, though simplifying the idea to some extent, did not get rid of imitation panelling until Bulleid came along with his shrieking malachite green colour of 1938 and later; while perhaps the most absurd example was to be found on the impoverished LNER which, when it abandoned proper teak carriages in favour of steel panelling, partly from before the war and wholly after 1944, continued to *paint* the exterior surfaces of its new main line coaches in fully lined 'ersatz' grained teak finish, and this particular nonsense continued until after nationalisation.

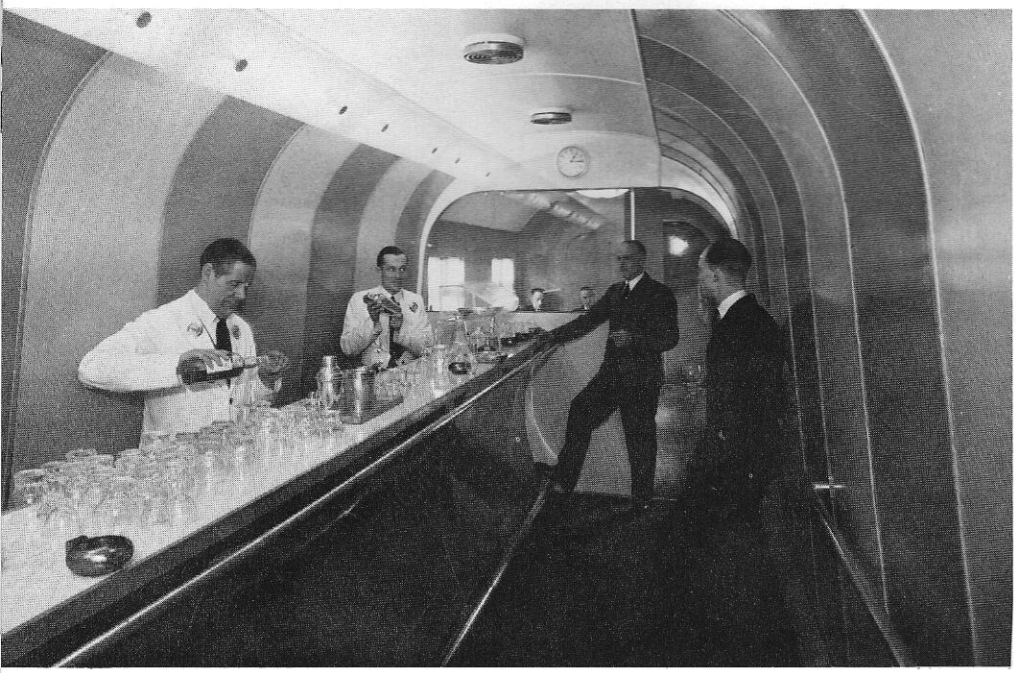
It thus took some time for the sort of simplified liveries which we now take for granted to become universal. Conventional wisdom gives the GWR the credit for being the first railway to appreciate the fundamental absurdity of pseudo panelling when it introduced its new livery in 1927, but in fact it had started much earlier with the oft unsung Lancashire and Yorkshire Railway back in the Victorian period. The LYR, almost uniquely at the time, adopted a form of wooden bodied carriage construction, first introduced by Mr Attock, devoid of much raised exterior beading. In consequence, the LYR adopted a much simpler two colour livery than did most contemporary railways. It was not devoid of lining but the latter was very restrained and did not pretend to imitate something which was not there on the surface of the carriage. However, the LYR did adopt traditional lining forms with its relatively few fully panelled carriages and went in totally the opposite direction when it arrayed its all steel electric stock in some of the most floridly lined liveries ever to be seen in Britain!

The rationale behind simplified carriage liveries was actually two-fold. Officially, one supposes — at least that is what the GWR and LMS claimed in 1927 and 1934 respectively — it looked more 'modern', given flush sided exteriors. So indeed it did, but when the fully panelled stock was also given the 'modern' treatment at repainting, usually looking quite dreadful in consequence, the real reason for the change was all too apparent; it was far cheaper to apply! It probably reached its all-time 'low' when the new BR colours were applied to ex-LNER Gresley panelled stock after 1948, with the dividing line between red and cream coming between, rather than along, a

line of horizontal beading.

The fact is — and the old coach painters knew this by instinct — that carriage livery, elaborate or simple, works best when it is related to the form and construction of the vehicle to which applied. Fully lined styles almost always looked splendid on older panelled vehicles and, paradoxically, often 'came off' even when the surface was smooth; but the converse does not seem to apply. A simple livery, to be effective, must still relate to the carriage form, as did the old styles. Thus, although panelled stock did not look too good when finished in simplified styles, the new GWR and LMS liveries worked well with the more modern coaches as, indeed, did the BR liveries until the currently trendy 'designer livery' period. Some of the new styles are, in fact, rather good — and a blessed relief from the turgid blue and grey — but, mercifully, the terms of reference of this journal allow me to draw a veil over the colours of something called 'Network SouthEast!"

One of Bulleid's less successful buffet cars for the Southern. Thankfully, the official lists do not record the running number of this particular vehicle; even his so-called 'Tavern' cars of 1948 were better than this! Photo: SR Official courtesy NRM



Tacky 'Festival of Britain' plastic and Formica do nothing to create a pleasant interior in this Cafeteria conversion of 1954. It is, in fact, the inside of M9212E featured in an earlier view and looks more like the interior to 'Joe's Cafe' than the latest railway carriage. In spite of all their critics, few could deny that modern carriage interiors have moved a long way forward since this example. The pleasant external outlines of one of the still very new BR MkI carriages can just be seen through the side windows. Photo: BR LMR

As for carriage interiors, these have almost always followed current fashion, though the railways have never really been fashion leaders in any serious sense. In fact they have for the most part been rather conservative in approach. Thus, for maybe half a century, the stage coach tradition held sway and it was only from later Victorian times onwards that the carriage interior received much attention. One suspects that is was part and parcel of the general reaction of the railways to improved passenger demands and expectations already outlined. Whatever the reasons, from the 1880s until Edwardian days, and often later, the railways often seemed to be bent on outstripping each other in terms of their imaginative use of wood finishes, upholstery patterns and a multiplicity of fittings designed to make travel more amenable. Fortunately, their better examples have often survived in preservation for all to admire.

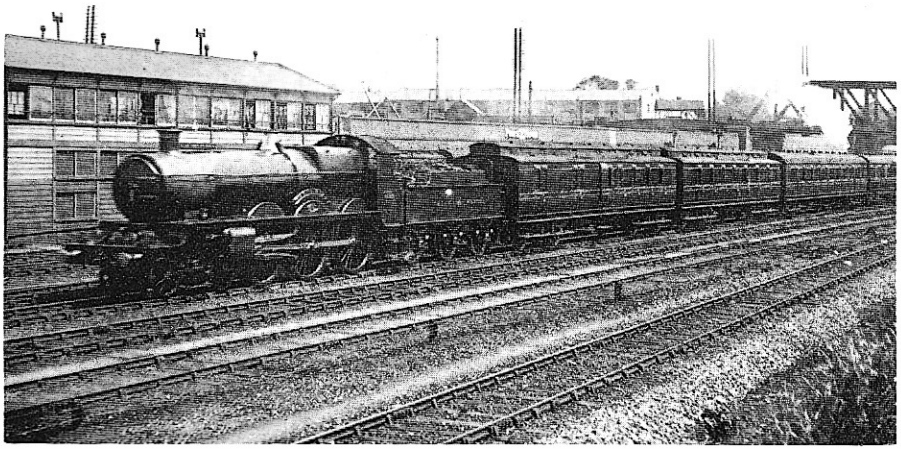
Carriage interiors are, of course, the most obvious part of carriage design to most travellers and as expectations rise and fashions change, so too did the carriage furnishings. Thus, in upholstery terms, the stolid Victorian plush and velvet gave way to the more patterned Edwardian styles, followed by the 'jazz' patterns of the 1920s and 1930s and the 'utility' of the 1940s and 1950s. Much the same was true of wall and ceiling finishes. The heavy 19th century wooden mouldings and panels — not to mention the almost mandatory Lincrusta trimmings in accompaniment — were replaced by an altogether 'lighter' touch in the first ten or twenty years of this century which, at its best could rival the best 'Adam revival' styles on the domestic front. These in turn gave way to the much plainer wood finishes to suit the fashions of the later inter-war years while, additionally, such new materials as rexine and other fabrics came into the reckoning, topped out by plastic laminates and some early examples of the now more familiar modern materials during the MkI period.

However, throughout the whole time under review, the basic method of carriage assembly and trimming changed very little in its fundamentals and the Victorian carriage builders would probably not have been too surprised at most of what was going on in a BR carriage works of the 1950s, whether it be upholstery making, bogie assembly or applying paint to the exterior. It was to be our later and still evolving age which was to witness the really quantum changes in carriage building; but that is another story.

Concluded □

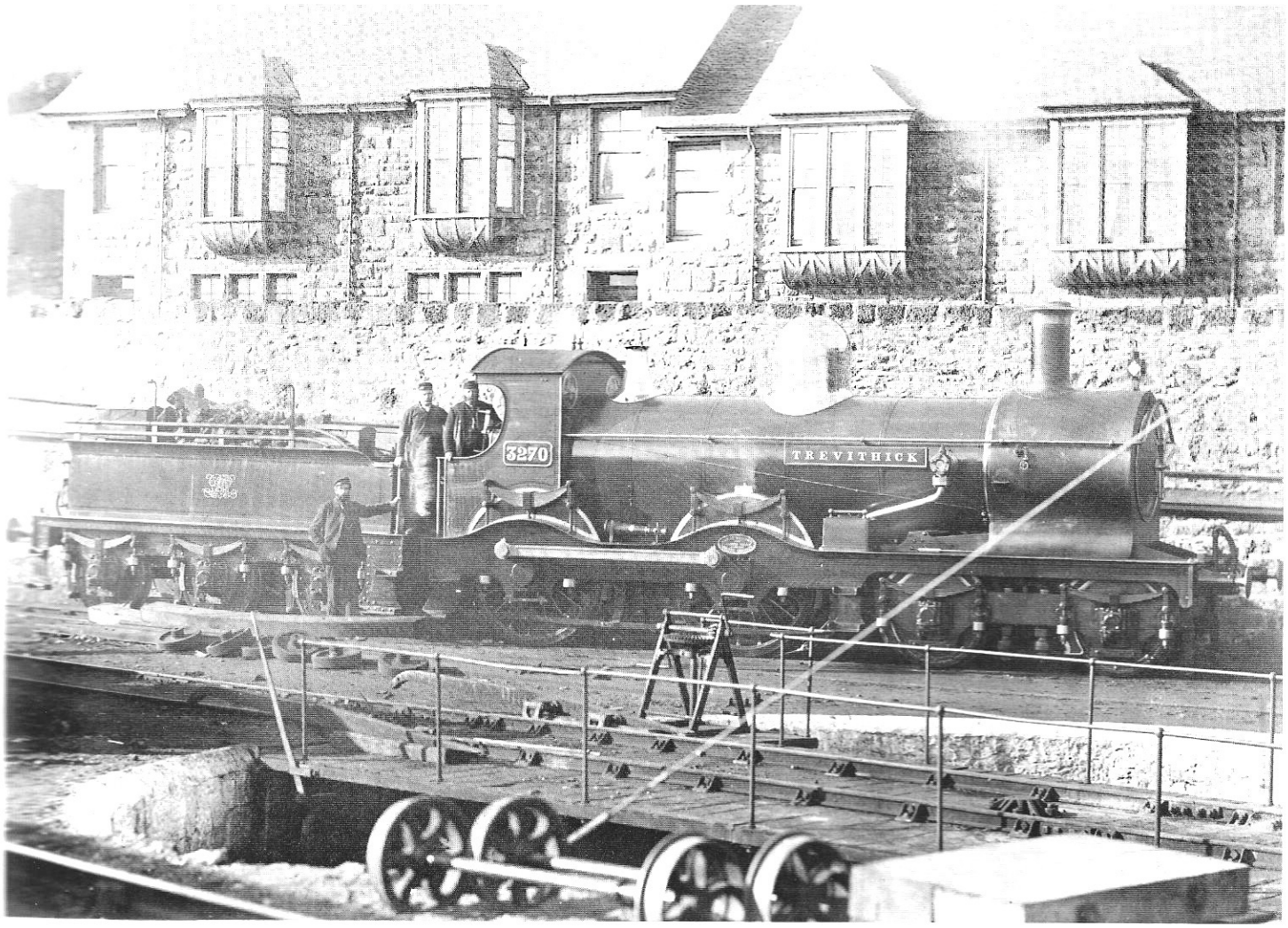
Vintage Great Western

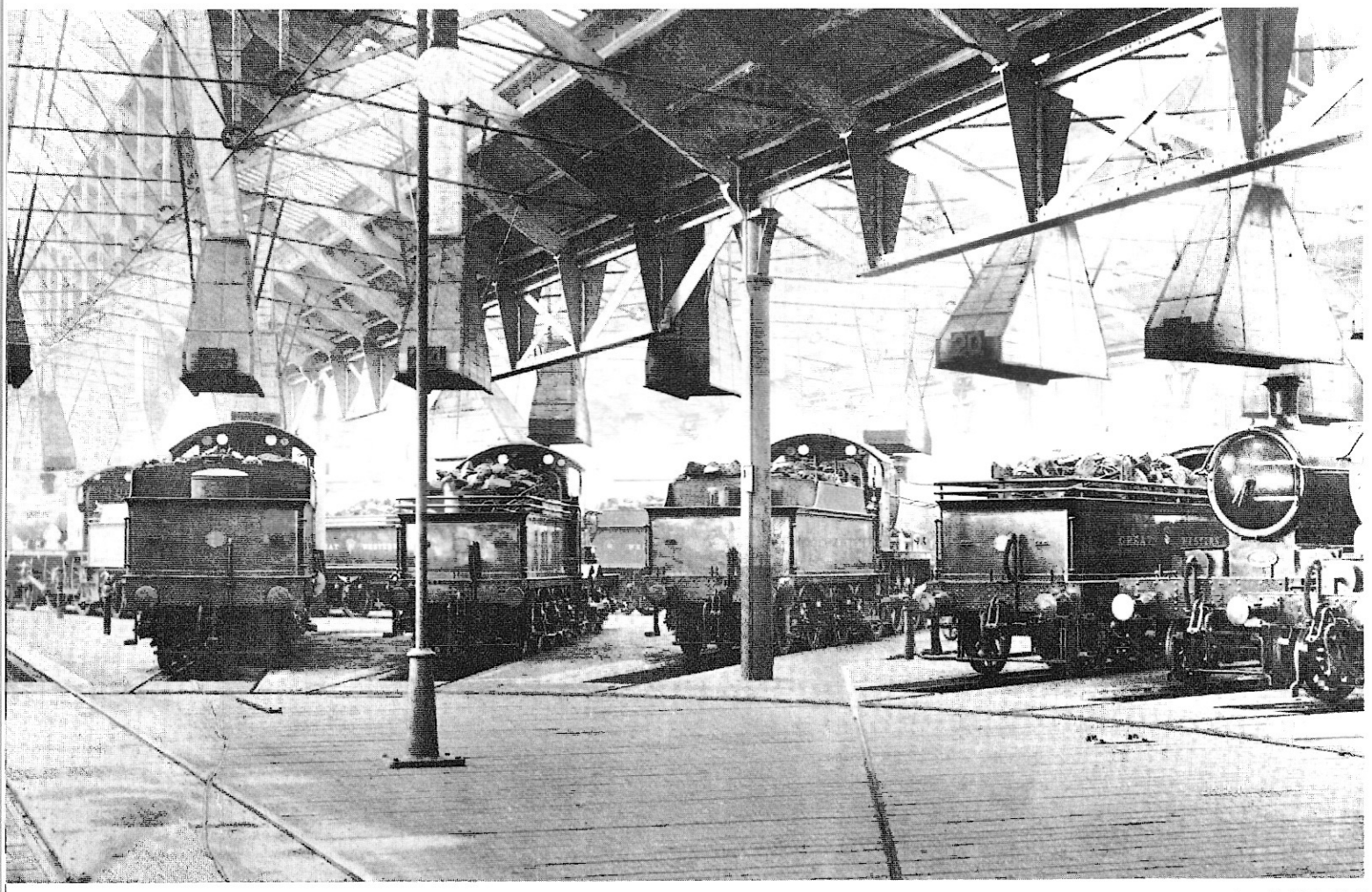
Turn of the century views



ABOVE: One of the key locomotives in British railway history, pioneer Star *North Star*, **passing Old Oak Common East signal box with a Cardiff express soon after being renumbered 4000 in December 1912. Built in 1906 as a 4-4-2 and converted to 4-6-0 in 1909, Churchward's classic laid the foundation for GWR express passenger practice for the rest of the company's existence. It was rebuilt as a Castle in 1929.** Photo: R. C. Riley collection

BELOW: Dean Duke 4-4-0 3270 *Trevithick* **at Penzance station c.1900. Built in 1896 and later renumbered 3264, this engine was not withdrawn until 1949. The Dukes were designed for work in Devon and Cornwall where they were a common sight until superseded by the Bulldogs and 43XX Moguls. Here, 3270 shows several original features replaced over the years as the GWR continued its process of improvement and standardisation: teak segments in the bogie and tender wheels, original round top boiler (the B4 Belpaire being fitted in 1916), straight nameplate predating the curved splasher-mounted type, and original narrow cab with whistle mounted on top.** Photo: Michael Trevena collection

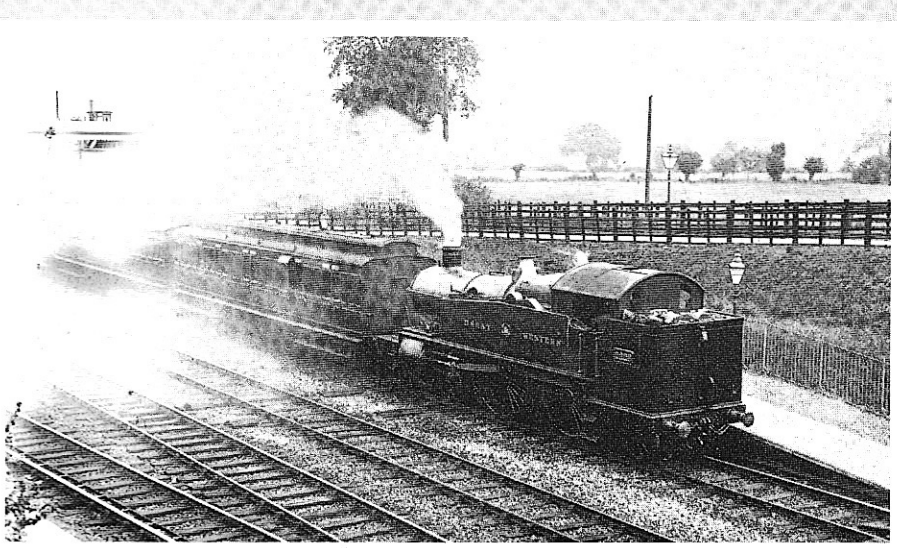




ABOVE: Inside Old Oak Common engine shed in 1910. The largest GWR MPD, it replaced the 1855 sheds at Westbourne Park (themselves superseding a roundhouse at Bishops Road) from 17th March 1906. At Old Oak, Churchward designed the prototype internal turntable depot: the 444x360ft shed housed a quartet of boarded turntables, each 65ft in diameter and with 28 roads. Photo: R. A. Watson collection

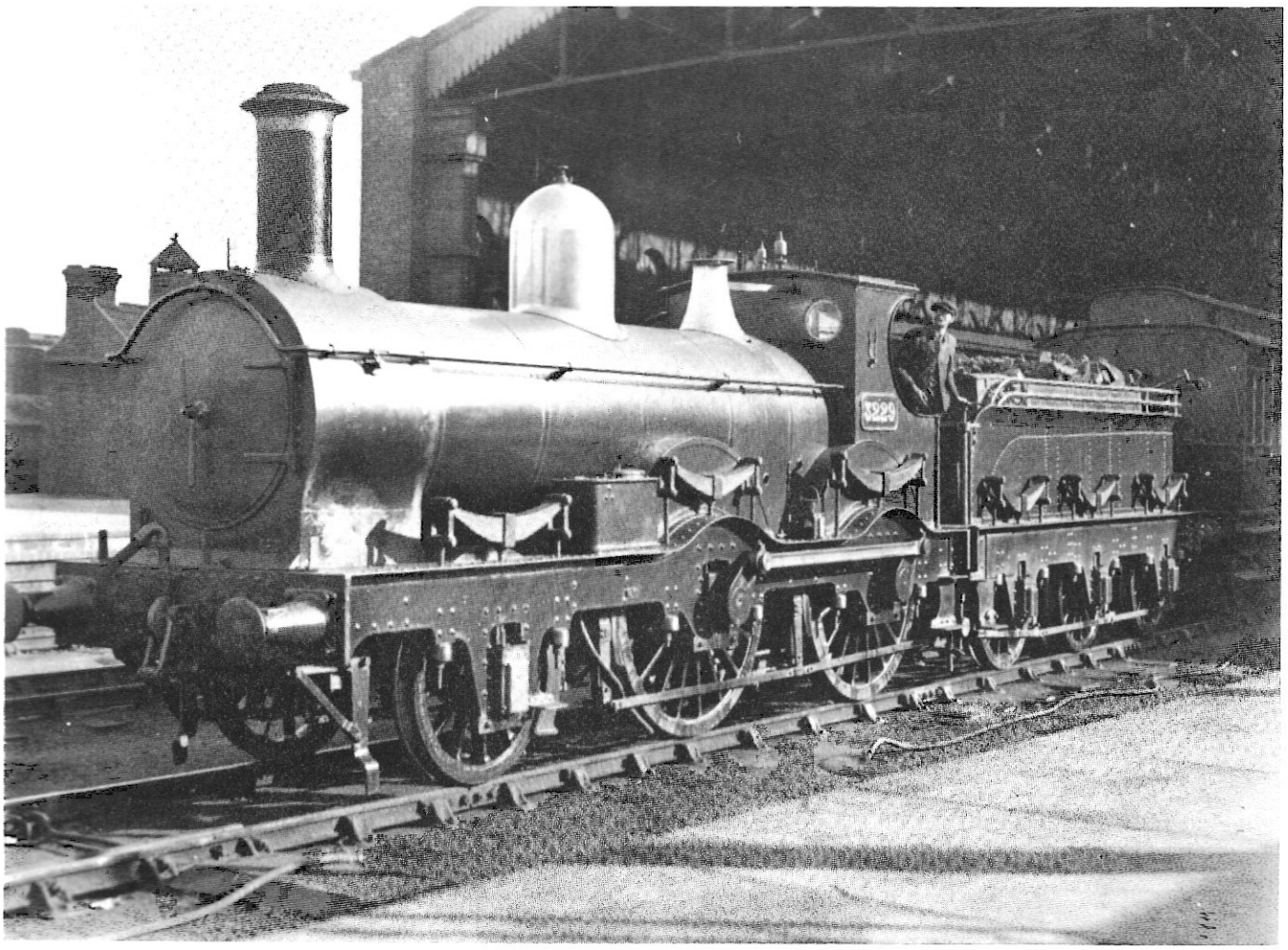
RIGHT: Right into the revolutionary Churchward era, the GWR was running locomotives of outdated design. The ancient pedigree of 3226 Class 2-4-0 3229 is very evident in this 1912 study taken at Wolverhampton. The six engines in the class were turned out in 1889, the last tender engines constructed at Wolverhampton Works, which was mainly noted for tanks. The 3226 Class was little more than a revival of the 111 Class which dated from two decades before and all had gone by 1922 after an unspectacular life working mainly to and from the northwest from Wolverhampton. Photo: W. Smith collection

ABOVE: The Bulldogs evolved from the Dukes and Bulldog 3415 *Baldwin* **is brand new in this view taken at Newton Abbot in the first quarter of 1903. These pretty 4-4-0s, mainly passenger engines until 1929, were widespread in the West Country in the early years of this century (Newton Abbot had 15 in 1923) but all GWR small tender engines suffered when the Moguls and, especially, the Halls arrived in force. 3415 was renamed** *Alfred Baldwin* **in April 1904 and was another long-lived machine, entering BR ownership and working until October 1949.** Photo: W. Smith collection



RIGHT: County Class 2-4-2 tank 2228 at Ickenham (GC/GW) on 8th July 1912. The 30 imposing tanks in the class, introduced in 1905, succeeded the 36XX 2-4-2T on heavier suburban traffic and were almost entirely confined to the London area. Their short life — all were gone by 1935 — was due to the 1931 introduction of the more effective 61XX 2-6-2T. The County's 6'8½" diameter driving wheel was the largest ever fitted to a tank engine. Note the ducting for the water pickup apparatus on the tank top. Photo: R. C. Riley collection

LEFT: Activity at Old Oak Common in Edwardian days. A Saint on a fitted freight passes a pair of Dean Goods 0-6-0s — with different model tenders — shunting the extensive siding accommodation. Photo: R. C. Riley collection



Continuing our series of edited extracts from the **GREAT WESTERN RAILWAY'S GENERAL APPENDIX TO THE RULE BOOK,** *produced for the instruction of the company's employees*

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TECHNICAL

ELECTRIC TRAIN TOKEN EXCHANGING APPARATUS

1. In this Apparatus the Token is fixed in a carrier to which is attached a hoop.
2. The post on which the Signalman places the Token, and from which the Fireman takes it before he enters the Token Section, is called the "Picking up" post.

The post on which the Fireman hangs the Token, after passing through the Section, and from which the Signalman afterwards fetches it, is called the "Setting down" post.

3. To deliver a Token, the Fireman must hold it at full length, with the hoop facing, fairly and squarely, to the front.

On arriving at the "Setting down" post, the hoop must be passed over the projecting arm and the Fireman should be careful to release his hold of the Token *immediately* it passes on to the arm.

The Token should on no account be *thrown* over the arm.

4. To pick up a Token, the Fireman should pass his hand and forearm fairly through the hoop and the Token Carrier will then easily draw out from the spring box of the "Picking up" post.
5. The Signalman must be careful in placing a Token Carrier in the spring box of the "Picking up" post to see that the hoop faces, fairly and squarely, the direction of the approaching Train, and that the spring box is in proper working order.
6. The speed at which the above operations are to be performed is in no case to exceed 15 miles per hour.
7. When new "Picking up" and "Setting down" posts are brought into use or positions are altered notices are issued by the Divisional Superintendent or District Traffic Manager, giving the positions.

The Appendices to the Service Time Tables give particulars of the places where "Picking up" and "Setting down" posts are provided.

8. All Train Token exchanging apparatus, including "Setting down" and "Picking up" posts and platforms for same where necessary, are provided and maintained by the Signal Department, and the Local Signal Inspector should be advised of any repairs which may be required to same.

With the object of preventing Tokens being damaged by fouling engines where "Picking up" and "Setting down" posts are provided, the following instructions must be observed:-

Instructions to Signalmen — The Token carrier must be so placed in the "Picking up" post that the Token is farthest away from the Fireman. This also applies when Tokens are exchanged by hand (Fig.1).

Instructions to Enginemen — The Token carrier must be placed on the "Setting down" post with the Token nearest the Fireman (Fig.2).

EXCHANGING TRAIN STAFFS, TOKENS OR TABLETS BY HAND

When exchanging Train Staffs, Tablets, Tokens or Train Tickets by hand, Drivers must be careful not to exceed a speed of 10 miles per hour.

When exchanging staffs by hand the person holding the staff which is being handed over must hold it by the "key" end so that the person taking the staff may grasp it by the "butt" end.

Diesel Cars or trains or engines, the driving cabs of which are single manned must be brought to a stand at the signal box, or other convenient point, and the Signalman must then proceed to such point and exchange the token with the Driver. The loop carrier must not be used.

INSTRUCTIONS FOR OPERATING INTERMEDIATE TOKEN INSTRUMENTS

(1) To place token in instrument
Press token forward into aperture in the centre of the instrument as if using an ordinary key in a lock (the key end of the token must engage on the centre pin of the instrument) then turn the token left to right as far as possible, withdraw token from centre pin and lower same into either of the columns of the magazine. Advise appropriate Signalman by means of telephone provided that token has been placed in the instrument.

When the token has been replaced in the instrument the signalmen must immediately withdraw tokens in accordance with Regulation 27 (Testing Instruments) of the Electric Train Token Regulations, and the shunter or other person responsible for operating the intermediate token instrument must remain there until the test has been made and the signalman has informed him that everything is again in order.

(2) To obtain token from instrument
After obtaining the authority of the appropriate Signalman by means of the telephone provided, to withdraw a token, lift it from the column of the magazine to the centre opening of the instrument, press the token forward as if using an ordinary key in a lock (the key end of the token must engage on the centre pin of the instrument), then turn the token right to left as far as possible. Wait until the needles in both the indicators are deflected (this takes place when both Signalmen hold down on their respective token ringing keys), and afterwards continue to turn the token from right to left until the token is free when it can be withdrawn from the instrument. Advise Signalman by means of the telephone provided that the token has been obtained from the instrument. □

Passing the Token

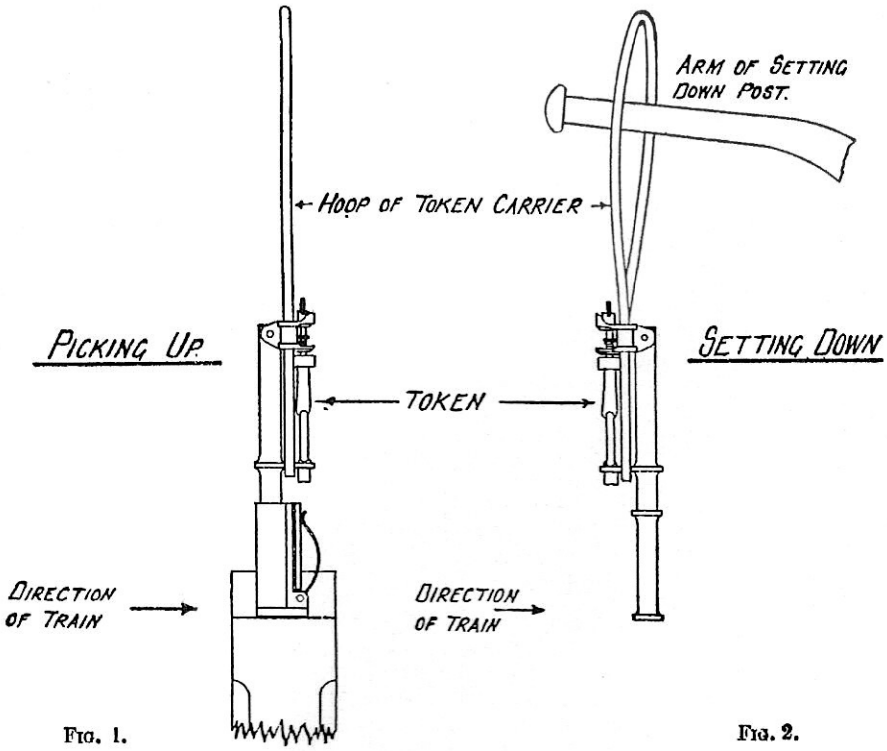


FIG. 1.

FIG. 2.

YESTERDAY'S OBSERVER

The KESR in the 1940s

The first line to be built under the 1896 Light Railways Act, the Kent & East Sussex Railway opened in stages from 1900 and eventually connected Robertsbridge on the Hastings line with Headcorn on the Tonbridge-Ashford main line. Despite vicissitudes, it clung to life long enough to be nationalised, the last BR passenger train running in 1954, and today is partially preserved. These excerpts from the 'Railway Observer' recall the KESR's irreplaceable charm during its last years as a wilfully eccentric independent

January 1943

The track has been extensively relaid and riding is very fair. At one or two points the train is inclined to pitch, but in the main I feel that this is due to the alignment and not to the quality of the track.

The two Rother Valley engines, 1 and 2, have been scrapped together with No.8. Neither 2 nor 8 did much work after 1938 as 2 was very worn and the boiler of 8 left much to be desired. No.3 is undergoing a general repair which has been in progress for close on two years. The delay is not due to any fault of the line, but to the fact that there is only one fitter who must perforce, carry out every job single-handed in addition to his normal duties of engine maintenance.

Carriages in use are Nos.4 and 5, recently repainted and in excellent condition. The roof of No.5 has recently been refelted. Coach No.3 is also in use as spare, and was used between Headcorn and Rolvenden on the day I travelled. It is very shabby externally, and is due for repainting, but the seats have been reupholstered and are very smart. The remaining bogie is awaiting repairs to the roof and general overhaul, including new upholstery and fresh paint inside and outside. All paint has been burnt off the interiors so that it is evident that a good job is intended. Unfortunately the job has been shelved for a while pending repairs to the paint shop.

The engines in service at present are No.4, the LSWR 'Saddleback', Southern Terrier No.2678 (formerly W14), which at one time worked the Hayling branch, and a Southern 01, 0-6-0 No.1426, which arrived on 4th December. Also at Rolvenden was No.3440, an Adams 0-6-0. She was dead and standing in the 'Hecate shed' adjoining the paint shop.

The remaining K&ESR stock at Rolvenden was two old LSWR six-wheelers Nos.1 and 19, the former green and the latter chocolate brown, and a LSWR four-wheeler, also brown. They are in a bad state and are out of use, though down for repair. Two open 10-ton wagons were standing in a siding lettered KESR in standard small lettering, while the Midland breakdown crane stood on the opposite side of the yard. Though mechanically very sound the wooden details of flooring, etc., appear to be suffering from the effect of prolonged exposure to the weather. The small crane is at Wittersham Road, where it is employed in loading logs.

The passenger traffic is gratifyingly large to a light railway enthusiast. Between Rolvenden and Robertsbridge the single coach was comfortably filled. The goods yards are full all along the line, and I am told that it is quite usual to haul a dozen wagons out of Tenterden yard daily.

Timekeeping was not at all bad, though delay in starting from Headcorn caused a late arrival at Rolvenden. Journey time, however, was kept.

The stations are in a fair state of maintenance, and a porter is employed at each of the principal points. At the halts, of course, the guard officiates. All staff on stations have a black uniform with KESR in red on the collar. In the matter of cleanliness the line ranks high. The coaches are kept very clean inside and out, and the locomotives are given reasonable attention by the one cleaner employed.

August 1945

SR P 1325 has been loaned to Rolvenden while 'Terrier' 2678 is away in Ashford Works. On 2nd and 4th August, 1325 and No.3 were at work while No.4 and SR 3440 were inside the shed. Trains were well filled, and the line appears to be in quite a prosperous condition compared with its pre-war position.

20 February 1946

The 12.30 pm train from Headcorn to Rolvenden on 20th February was worked by 'Terrier' tank No.3, and the 11.20 am from Robertsbridge by SR 2678. Other engines at Rolvenden were KESR 0-6-0ST No.4 and SR 3440. Part of the track has been relaid with concrete sleepers and on these sections only one sleeper in three carries both rails, the others are square blocks supporting one rail only.

23 August 1947

The service was in the hands of 1555 and 2678; 3440 and No.4 being in the shed at Rolvenden. 1555 is on loan while 'Terrier' No.3 is away at Brighton Works for a heavy overhaul. It has reappeared repainted green fully lined out in yellow with black edging, similar to the latest style of painting of express passenger SR engines. The wheels are green, unlined, and the frames are chocolate outside and red between, with red guard irons. The existing cast plate on the bunker sides lettered 'Kent and East Sussex Railway Company' has been retained, and is painted green all over, and the tanks are lettered K&ESR in lined block letters in a curve above the figure '3'. The shade of green used appears to be somewhat darker than the standard SR Malachite green. The engine has had a complete renewal of all worn parts, and should be good for many more years of service.

All the old 4 and 6-wheeled coaches are now derelict at Rolvenden. Two corridor and three non-corridor bogie coaches are in use, while at present SR Third Brakes 3392/3 of set 558 are on loan for the hop-pickers' traffic.

All the stations have been provided with new nameboards, and at Tenterden Town modern concrete lamp-standards have been erected along both platforms. The track appeared in quite good condition on the whole.

February 1948

Kent and East Sussex and East Kent Railways — It is understood that these lines were placed under the control of the Southern Region on 2nd February. Of the two remaining locomotives of the KESR, only the 'Terrier' 0-6-0T, No.3, which has recently been through Brighton works, is serviceable, the ex-LSWR 0-6-0ST No.4 being beyond repair.

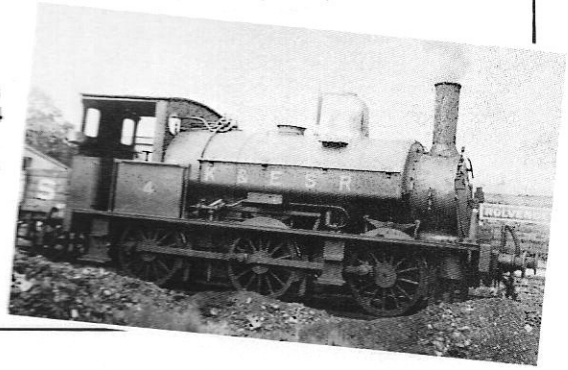
27 March 1948

The following were at Rolvenden: K&ES Nos.3 and 4; Southern 01 1434 and A1X 2678, the first and last-named being in use. No.3 was returned from Brighton facing towards Headcorn and in the absence of turntable facilities seems likely to remain so. The other engines face the usual way, i.e. towards Robertsbridge.

Nationalisation has already affected the line. All trains now run with goods brake vans to reduce the buffeting and damage that the passenger stock has hitherto received from the running of loose-coupled mixed trains. Two LSW ten-ton brakes (S54693 and S54900), lettered 'To work between Headcorn and Robertsbridge via Tenterden only' have been sent for this purpose. It would seem that station shunting will reduce the value of this innovation. It is, however, a temporary expedient, pending track relaying and the eventual operation of separate through freight services by Class N locomotives. Additional passenger stock is to be provided and most of the old is to be broken up at Headcorn. Some improvements to station premises are noted including the provision of platform lighting.

17 June 1948

The majority of the rolling stock of the KESR at Headcorn is being ruthlessly smashed to pieces and burnt. The ex-NLR van, two hand cranes, 4 six-wheeled coaches and 4 recently acquired ex-LSWR bogie coaches have all been thus destroyed. Amid this scene of carnage has stood old No.4, its fate undecided. It is rumoured that a film company is negotiating its purchase. On 17th June the board outside the General Offices which proclaimed the premises to be the general offices for the EKR, KESR and S&MR was pulled down and the offices appear to be in the course of vacation, thus writing finis to another part of light railway history. □



Ex-LSWR 0-6-0ST as KESR No.4 at Rolvenden. Photo: Lens of Sutton

YESTERDAY'S OBSERVER

Reappraisal of British Railways Modernisation Plan

The recent report issued by the BTC on its reappraisal of the modernisation plan for British Railways contains much of interest. The report states that the essential requirement of the next five years is that a more compact system and a more economic scale of operations shall be achieved more quickly. Accordingly the modernisation plan is to be speeded up:-

CLOSURES. During 1959-63 a reduction of 10 per cent in the route mileage is to be made (in the last four years a reduction of only just over 1½ per cent has been made). No closure of main lines is foreseen in this period. The number of stations to be closed is likely to exceed that on the planned route mileage reduction because of the large number of intermediate stations to be closed on lines to remain open for through traffic.

Electrification of the West Coast main line as between Crewe and Carlisle would enable traffic to be diverted from the Hellifield-Carlisle section thus enabling much of the latter to be closed. The Great Central main line is to be subject to planned reduction in traffic.

CIVIL ENGINEERING. Phase 2 of the Kent Coast Scheme will necessitate the laying of extra tracks in the Folkestone area to allow expresses to overtake other trains. Further bottlenecks are to be removed on the East Coast main line. A connection between the LNE and LMS lines in the Edinburgh area will enable a better service to be provided for mineral traffic.

The Western Region main line will be improved by the provision of an extra running line through Reading station and by new loops in the Didcot-Swindon area. The Severn Bridge route will be developed to relieve the Severn Tunnel.

SIGNALLING. Colour-light signalled mileage will have risen by the end of 1963 to 3,000 track-miles compared with the 1,700 track-miles at the end of last year.

STEAM TRACTION. The total number of steam locomotives is expected to be reduced by 6,000 to 11,500 by the end of 1963. Steam traction should disappear completely from East Anglia, South Eastern England, WR lines west of Newton Abbot, and from most of the Scottish Highlands. Very few steam locomotives will be left on the East Coast main line, on the St Pancras main line south of Leicester.

Passenger vehicles are to be reduced by 7,000 to 35,000 and wagons by 250,000 to 750,000. The number of works engaged in the repair of locomotives of all types is likely to be reduced from the total of twenty-two at the beginning of 1959 to twelve.

ELECTRIFICATION. The electrification programme has been reviewed and the completion dates of some of the schemes have been modified. The Euston to Birmingham, Liverpool and Manchester scheme is expected to be finished some one or two years earlier and concentration of resources on this will mean the postponement of the start on the East Coast main line scheme until after 1963 although a start will be made on the GN suburban services. The Kent Coast Scheme, Phase 2, is to be finished in part by 1961, a year earlier than envisaged.

DIESEL TRACTION. Some 2,300 diesel main line locomotives should be in service by 1963. The displacement of steam locomotives on an area basis is the aim but until enough diesels are available to implement this they will be used on selected routes to secure the maximum improvement in services as quickly as possible. For example 22 'Deltics' will replace 55 steam engines between Kings Cross, Newcastle and Edinburgh. Between Newcastle and Edinburgh 20 diesels will replace 48 steam locomotives on the haulage of express trains not scheduled to be worked by the 'Deltics'.

By the end of 1961 all 245 steam engines in the West of England should be replaced by 115 diesels.

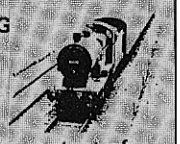
The LMR will have about 250 diesels in service by 1962 on the St Pancras-Leeds and Manchester and Leeds-Bristol lines. The NER will have about 350 diesels in use by 1963 replacing 700 steam engines.

In Scotland in 1960 the Highland and GN of S sections will go over to diesel working with 75 locomotives and 40 multiple units. In the following year 140 diesel locomotives are to be introduced on the lines from Glasgow to Aberdeen, Mallaig and Oban, and on goods workings in the Glasgow area. In 1962, nearly 200 locomotives and 75 multiple units should be introduced between Carlisle and Edinburgh, and in Fife and south-west Scotland.

By the end of 1963 over 4,000 diesel multiple units will be in service compared with the 2,400 at the end of 1958. They will be used all over the system. By 1963 the virtual elimination of steam shunting engines by diesel power will have taken place. □

Reprinted from the September 1959 issue of the RCTS journal 'Railway Observer'

LETTERS



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DISASTER AT BARNES

Sykes Lock & Block was first brought into use during 1874 on the London, Chatham & Dover Railway, the three signal boxes concerned being Shepherds Lane, Brixton and Canterbury Road Junction. On 23rd February 1875 William Robert Sykes lodged his invention and by 1880 he had further developed it to take out a further patent. As early as July 1885 the Hull & Barnsley Railway was entirely equipped with a version of this later development of the Sykes.

Sykes did not invent the principle of 'lock and block', though it's believed it was he who coined the phrase. In 1869 Edward Tyer patented a complete system of train signalling of what is now known as lock and block. There were eight different systems in use in Great Britain. The Sykes was the most common, being used on 25 railways; over 25,000 levers were locked by it. It was to linger on almost 30 years after the Barnes accident and came to an end on 14th April 1984 with the closure of Charing and Lenham signal boxes.

Mick Nicholson, Hull

SLIP COACHES

Having read the article on slip working in the Summer 1988 edition of BACKTRACK, I was surprised that there was no mention of the curious method of operation originally used on the London & Blackwall Railway.

When this line was opened in July 1840 the company employed an ingenious method of cable haulage and this entailed a form of 'slipping'. Locomotives had been ruled out largely because of potential fire hazards to adjoining dock premises and motive power was provided by stationary winding engines, positioned at either terminus, designed by a Mr Mozer and built under the direction of Robert Stephenson, who was one of the line's engineers.

The route initially linked the India Docks at Blackwall with a station in the Minories, but the latter was deemed inconvenient by the company and a short extension to Fenchurch Street was opened in August 1841.

The method by which the railway was operated was highly efficient, even if rather weird by modern standards. At the start of a day's work a train of at least seven coaches would be waiting at either terminus and a single vehicle at each of the intermediate stations. With all of these gripped to the rope the signal would be given over the Cooke & Wheatstone electro-magnetic telegraph and the engines at both ends of the line would start winding and drawing the carriages towards them. The coaches from the intermediate stations would travel singly towards their respective termini, followed by the main trains, which would deposit the majority of their formations along the way. When these trains were about twenty yards short of their first station, a guard on the last coach would remove a pin from the coupling, release the gripping apparatus from the rope, then allow his vehicle to glide alongside the platform, where he would stop it with his handbrake. Whilst he was doing this the remainder of the train continued to trundle down the track at around 30 mph until it reached the next station where the procedure would be repeated. Eventually, the two coaches which started their journey at the front of the train would arrive at the terminus, having been preceded by the vehicles from the five intermediate stations. In this manner another seven coach formation would be available for the return trip and the same sequence of events would be set into action. Shortly before reaching the end of the line the guards would release their rope-gripping apparatus and then bring their carriages to a stand at the terminal station platforms.

By working in this manner there was no need for the rope to stop once the trains had been set in motion, but although it provided a speedy means of getting from one end of the line to the other, it made journeys between intermediate stations impossible without first travelling into one of the termini. Coaches were arranged in the order of the stations which they served. Therefore, when a train was marshalled at the Minories the last carriage would be for Shadwell, the next one would be for Stepney and so on through to the leading vehicle which would be for Blackwall. The method of operation actually varied according to the demands that were made upon it during the day and although a set of seven coaches would be regarded as about standard, it wasn't unknown for a train to comprise of over twenty. The time allowed for the through carriages to cover the complete distance was officially 13 minutes, and four trains were diagrammed every hour between 8.30 am and 8.45 pm.

Unfortunately the system of cable haulage was prone to problems and therefore the company eventually sought Parliamentary approval to employ locomotives instead. At the same time, the track,

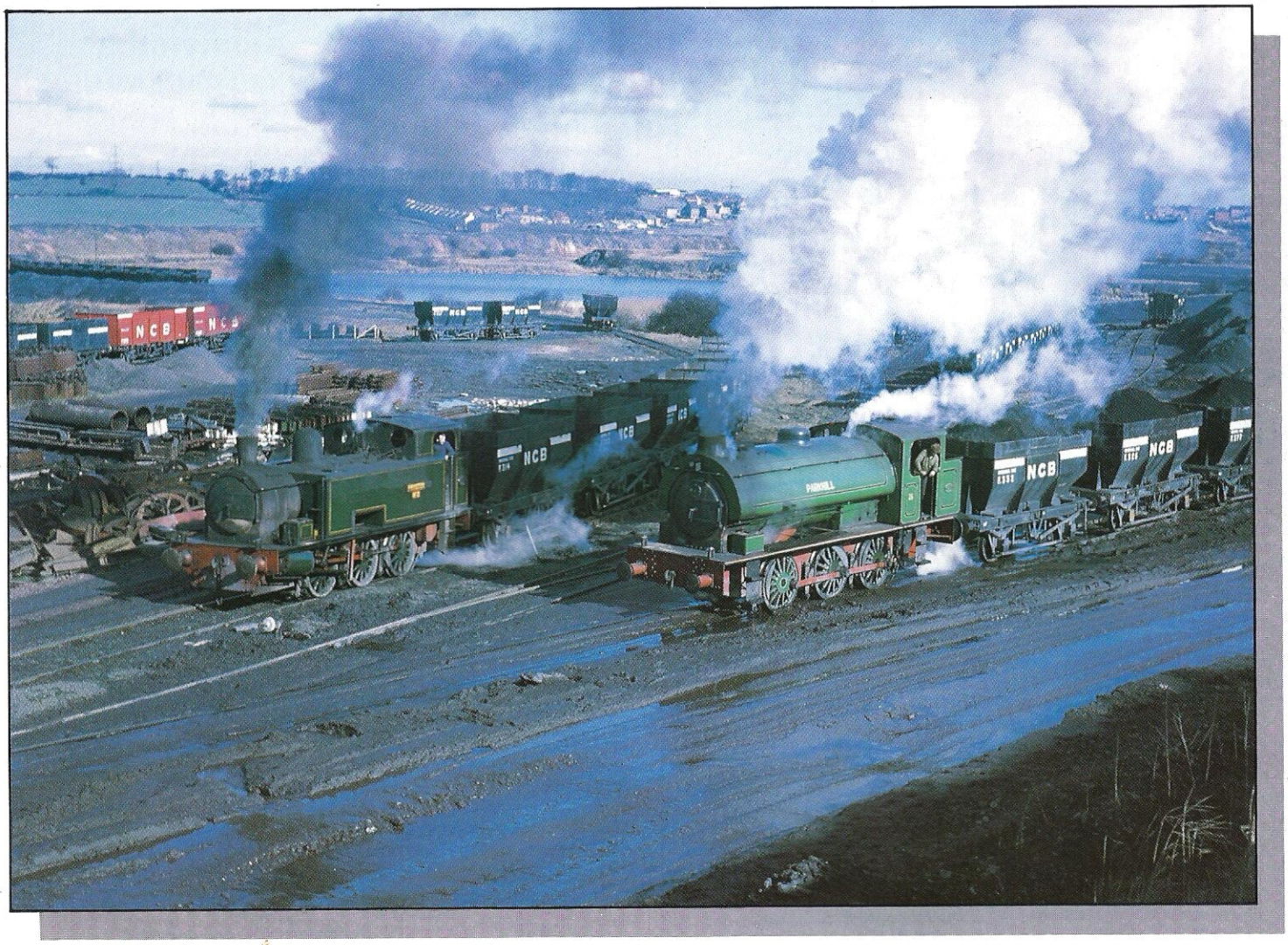
continued p190

ASHWELL & MORDEN

The line from Hitchin to Cambridge commenced life as the Royston & Hitchin Railway, leased by the Great Northern and worked by it from 1850. Extension east to meet the Great Eastern at Shepreth in 1851 enabled GN trains to work through to Cambridge over GE metals from 1866. Ashwell & Morden was one of three intermediate stations on the original R&HR and its grandiose station building and goods shed served only a scattering of rural villages. By the date of this view, September 1971, its goods service had been withdrawn for six years. Photo: J. C. Gilks

D5579

Diesel and electric locos are generally less audible than steam; visually, too, they are less obvious. In 1959, concerned at an increase in casualties to PW workers, BR(ER) requested that two high-visibility overall colour schemes replaced the standard green. A pair of Brush Type Bs were used, D5578 was painted 'electric' blue and D5579 a dark yellow described as 'bronze gold'. The latter engine is pictured at March depot on 31st March 1963. The yellow nose panel is a later addition and its use — later universal — was prompted by the experiment to D5579. Photo: T. B. Owen



Back Track

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FRONT COVER: A3 60056 *Centenary* **is readied for the road at Grantham shed in August 1961. The Pacific, a Grantham engine for a decade before withdrawal in May 1963, has just returned from Doncaster Works, where the German-style smoke deflectors were fitted.** Photo: K. R. Pirt/K.R. Photographics

ALSO: An exceptional array of locomotive liveries at Eastleigh shed in July 1948. From left: Bulleid Light Pacifics 34022 *Exmoor* **and 34064** *Fighter Command* **in malachite and apple green respectively, both with early BR lettering; Class Z 0-8-0T 30956 in black; Class T9 4-4-0 30119 in BR style malachite; and Class T3 4-4-0 563 in pea green. The shed's tank house and water softener are visible in the background.** Photo: S. C. Townroe

BACK COVER: The final duty of the early shift at Fryston Colliery near Castleford was to marshall trains of internal wagons after they had been emptied over the tipplers. On a cold, sunny 25th February 1970, Austerity 0-6-0ST RSH 7291/45 *Parkhill* **and Hudswell Clarke 1883/55** *Fryston No.2* **are beginning their runs up the yard. All Wheldale Colliery coal came here for washing, full trains arriving on the private connecting line behind Wheldale engines which returned with the empties. Despite no pattern apparent to the onlooker, all went like clockwork.** Photo: Barrie Williamson

Atlantic